THE WORKSTATION NEWSWEEKLY

MacWEEK™

$3.50

2 3 Volume 1 Oct. 13, 1987

INSIDE

Professor Mac
Kinko's packages college talent
Page 12

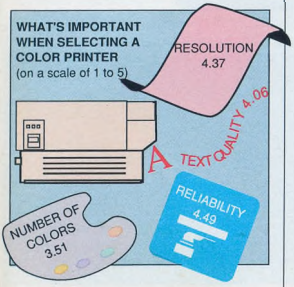
Window On
PC connectivity, networks
Page 20

Reviews
C.A.T., TurboMax, HyperCard book
Page 25

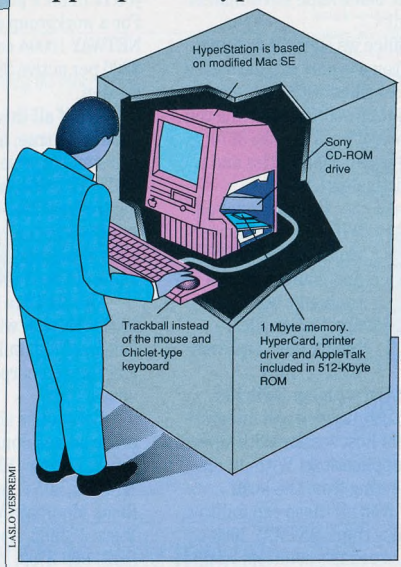
"Computers ... seemed like those trolls in Norse mythology that did impossible things. I clued into that."

Crazy Einsteins
Mark Zimmer and his partner, Tom Hedges, the programmers behind Image Studio
Page 28

ZOOM IN


WHAT'S IMPORTANT WHEN SELECTING A COLOR PRINTER
(on a scale of 1 to 5)
RESOLUTION 4.37
TEXT QUALITY 4.06
RELIABILITY 4.49
NUMBER OF COLORS 3.51

Apple plans HyperCard-based info kiosk


HyperStation is based on modified Mac SE
Sony CD-ROM drive
Trackball instead of the mouse and Chiclet-type keyboard
1 Mbyte memory. HyperCard, printer driver and AppleTalk included in 512-Kbyte ROM

LASLO VESPREMI

HyperCard and a specially configured Macintosh SE are keys to Apple's videotext strategy.

BY JON SWARTZ
MacWEEK Staff

CUPERTINO, Calif. — Apple plans to release next January a dedicated HyperCard workstation for the information videotext market, sources said last week.

Telecommunications representatives from government agencies, universities and retail chains have been invited here to see the unit, called HyperStation within Apple, that would be used primarily to access product information.

Code-named "Laura," the HyperStation unit is similar to a Macintosh SE, according to sources who recently attended a demonstration of the product, which has been under development for more than a year.

Although Apple would not publicly comment on the project, a source within the company said HyperStation probably will be sold only through

See KIOSK, Page 29

It's open warfare in spreadsheets

Mac 1-2-3 preannounced

BY RUSTY WESTON
MacWEEK Staff

CAMBRIDGE, Mass. — In a year during which both Apple and IBM unveiled higher-powered operating platforms, the two biggest software developers announced spreadsheets to exploit the new technology.

The market's response to the announcements that Lotus Development Corp. of Cambridge, Mass., and Microsoft Corp. of Redmond, Wash., made last week will test the industry axiom that good software sells hardware.

Lotus announced it will release a Mac version of its best-selling 1-2-3 in late 1988 but gave few details. Microsoft bundled an announcement of an upgrade to its Mac Excel with fanfare over the release of a PC version of the product.

The features and functionality of 1-2-3 on the Mac will differ from the PC version,

See LOTUS, Page 29

PC Excel tops Mac upgrade

BY RICK LEPAGE
and RUSTY WESTON
MacWEEK Staff

NEW YORK — The long-awaited announcement of PC Excel by Microsoft Corp. of Redmond, Wash., included the admission that the Mac version lags in functionality.

Despite improvements such as color and multitasking in the upgraded version of Mac Excel to ship early next year, the MS-DOS Windows version offers a number of exclusive features and improvements:

- Dynamic Data Exchange allows Excel to trade data simultaneously with other programs that are running under Windows 2.0.
- An annotation feature allows users to attach notes to cells. An auditing feature for debugging formulas shows all cells that impact calculations or values in the cells of your choice.
- Excel's database can build a type of dia-

See EXCEL, Page 29

4D upgrade leads Paris product debuts

BY ABIGAIL CHRISTOPHER
MacWEEK Staff

PARIS — The 15,000 Macintosh users who packed Le Grand Hall at France's annual Apple Expo got an early peek at a handful of new and upgraded Macintosh products that will soon make their way to the United States.

The most significant announcements were an upgrade to the French version of 4th Dimension, called 4e Dimension; 3-D solid modeling software from Abvent; and new features and a new name for the European version of Super-Mac Technology's PixelPaint.

Apple itself did not show any new products. "Since we were in Boston, we already saw a lot of this stuff — the ImageWriter LQ, Hyper-

See PARIS, Page 29

Radius offers hi-res double-page monitor

BY CLIFF LEHMAN
MacWEEK Staff

SAN JOSE, Calif. — Radius Inc. expanded its offerings for the Macintosh monitor market this week when it announced a two-page display monitor twice the size of the company's Full Page Display.

The new monitor will display two facing pages with most popular Mac software.

The Radius Two Page Display (TPD) for the Macintosh SE is a 19-inch monitor with a screen refresh rate of 72 Hz, the highest offered in the Mac market.

See RADIUS, Page 29

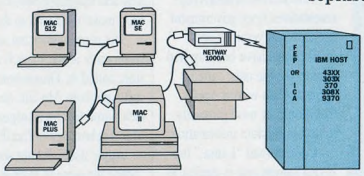
The Radius Two Page Display for the Mac SE will display two facing pages with most Mac software and has a screen refresh rate of 72 Hz.

COURTESY RADIUS

How your Mac family and your 3270 family can be one big happy family.

Your Macintoshes and your mainframe. They have some truly amazing capabilities. Except for one: the ability to easily talk to one another.

But there is a universal solution that unites all your Macs —the 512 KE, the Plus, the SE,



Corporate workgroup using AppleTalk.

and even the Mac II—with your 3270 world. It's Tri-Data's NETWAY 1000A.

This 3270 gateway for your Macs delivers perfect 3274 controller emulation. So it doesn't compromise your SNA or Bisync mainframe environment one bit.

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And if all this sounds too good to be true, here's another pleasant surprise. Tri-Data's NETWAY 1000A has been delivering the best Mac-to-mainframe solutions for more than two years. For many of the biggest names in the Fortune 1000.

The Tri-Data NETWAY 1000A. Exactly what your Mac family, 3270 family, and, ultimately, your corporate family needs.

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CONTENTS

NEWS

SoftQuad's Author/Editor uses SGML publishing language 06
Macs help speed up identification of crash victims 10
Goodman: The complete HyperCard author 12

BUSINESS WATCH
Taiwan becomes industry R&D center 14
Symantec merges way into Mac market 15

PRODUCTS

WINDOW ON
PC connectivity: More options for integrating the office 20
Networks: Building on AppleShare 23

REVIEWS
C.A.T: Takes care of business 25
TurboMax: Breathe new life into your Mac 26
"The Complete HyperCard Handbook" 27

DEPARTMENTS

Calendar 15

OPINION
Editorials 16
Letters to the Editor 16
John Edwards: Communicating 17
Mac the Knife 34

PEOPLE
The 'Crazy Einsteins' behind Image Studio 28

PostScript output comes to slide making

BY ABIGAIL CHRISTOPHER
MacWEEK Staff

MOUNTAIN VIEW, Calif. — Adobe Systems Inc. has developed a prototype color slide maker that supports PostScript, according to several sources close to the Mountain View, Calif., company.

"Adobe is actively looking for OEMs and expects to sign a deal by [Mac] Expo in January," one source said. A PostScript film recorder would provide crisp resolution and eliminate stair-step distortion in text because it will support better font handling.

"Adobe does not want to be in the hardware business; it wants to OEM the technology to an established manufacturer of slidemakers," said a graphic artist familiar with the company's plans. Adobe will show slides generated with the system at the Computer-Aided Publishing Conference (CAP) next month in Chicago.

"Adobe's corporate communications department uses the slide maker regularly" for its own presentations, a source said. Several sources close to the company have already seen sample slides of Adobe Illustrator images created on a Mac II from the PostScript film recorder.

This is not the first time Adobe has shown interest in film recording. A Mac graphics software developer reportedly approached Adobe in March 1986 about developing a PostScript film recorder, but the company asked for such high licensing fees — $200,000 up front and 7 percent of gross revenue in guaranteed royalties in the first two years — that the developer dropped the project.

In January 1986, John Warnock, Adobe president, showed a PostScript class sample PostScript color prints from a film recorder. Adobe reportedly had developed a Raster Image Processor (RIP) for a film recorder from Matrix Instruments Inc. of Orangeburg, N.Y., that supported the output of PostScript 35mm color slides.

Jim Rafferty, president of Cricket Software of Philadelphia, whose recently introduced Cricket Presents... supports a variety of non-PostScript film recorders, was skeptical.

"The Cricket drivers for $5,000 to $12,000 film recorders using QuickDraw will provide a competitive and comparable solution for users," he said.

"If the film recorder is priced like the [QMS] color thermal Postscript printer shown last month at the Seybold [Desktop Publishing] Conference, it will be hard to sell," he said.

No price was announced for that printer, but QMS Inc. of Mobile, Ala., said it would be around $20,000. ■

Borland and Apple pool expertise

Companies to develop desktop communications products

BY CLIFF LEHMAN
MacWEEK Staff

SCOTTS VALLEY, Calif. — Borland International Inc. announced last week an agreement with Apple to work together to define and develop products for the desktop communications market. The agreement with Apple includes plans to share communications technology, according to Ron Posner, Borland's executive vice president of sales.

"Borland will bring significant database technology to the table and Apple will contribute AFP (AppleTalk File Protocol) technology," said Peter Hirshberg, Apple's manager of desktop communication for large systems.

"Borland has a bunch of really bright database engineers and we have workstation and communication technology," he said.

"Desktop communication is going to be a great area of growth, and with data communications technology like that from SideKick Plus, we are going to make Macintosh desktop communications unique," said Philippe Kahn, chairman, president and CEO of Borland.

The Borland project will include micro-to-mainframe database systems, according to Hirshberg.

The products will eschew the traditional master-slave relationship between host and PC, emphasizing instead peer-to-peer relationship between database hosts and PCs, Hirshberg said. Borland hopes to have the first products from the new project on the market during the first half of 1988, Posner said.

"Apple and Borland together make a great team. Cooperative development not only will be beneficial to the two companies but also to end users," said Gary Wollin, an industry analyst with Bear, Stearns and Co. of San Francisco.

At the same time, Borland announced the formation of a Macintosh products division. The new division will be responsible for Borland's current Mac products and the development of new products. "Given the uniqueness of the Mac, we need a separate division to go with that market," Posner said.

In addition, Borland announced that the new version of Reflex Plus started shipping last week. Posner said the database application has sold more than 40,000 copies. ■

Apple's sales force descends on Maui

BY RUSEL DEMARIA
Special to MacWEEK

MAUI, Hawaii — All along the Kaanapali Strip, Apples have replaced pineapples, and Macs have replaced macadamias. Apple's annual sales conference arrived last week — some 1,600 strong.

The theme of this year's conference was "team selling," something that, if it works, will benefit customers, sales representatives and Apple itself. The idea is that Apple representatives, dealers and value-added resellers (VARs) will work together, eliminating frictions between dealers and Apple's regional sales team. According to Jim O'Gara, Apple's director of business sales development, team selling is designed to allow Apple sales representatives to work together with Apple dealers and VARs.

For instance, if customers wish to buy from dealers, they may still receive support directly from Apple's national representatives and from Apple's corporate headquarters. The regional Apple representative also receives his full commission for the sale, even though it came through the dealer.

Sales people were optimistic about the team selling program and the announcements coinciding with the conference regarding Lotus Development Corp.'s 1-2-3 for the Mac and Microsoft Corp.'s upgraded version of Excel. (See stories, Page 1.) ■

Adobe asserts PostScript ownership

BY CLIFF LEHMAN
MacWEEK Staff

MOUNTAIN VIEW, Calif. — Adobe Systems Inc. issued a written statement last week that further defines its position asserting ownership of the PostScript page-description language.

Charles Geschke, executive vice president of Adobe, made similar statements in a speech last month at the Seybold Desktop Publishing Conference in Santa Clara, Calif.

"The general idea of utilizing a page-description language is in the public domain," the statement said, but Adobe claims ownership of the copyright on the list of commands and written specifications for PostScript.

The company also said, "Adobe does not intend to exclude anyone...from writing interpreters for the PostScript language."

Adobe offers a written copyright license, "for anyone who wishes to write an interpreter using Adobe's copyrighted list of commands."

"They can go stand on their heads," said Joe Meshi, vice president of Conographic Corp. of Irvine, Calif.

"What they are trying to do is throw a cloud of uncertainty on the market so potential customers will hesitate to buy from clone makers," he said.

Conographic is one of 12 companies developing PostScript compatible interpreters as alternatives to Adobe's. ■

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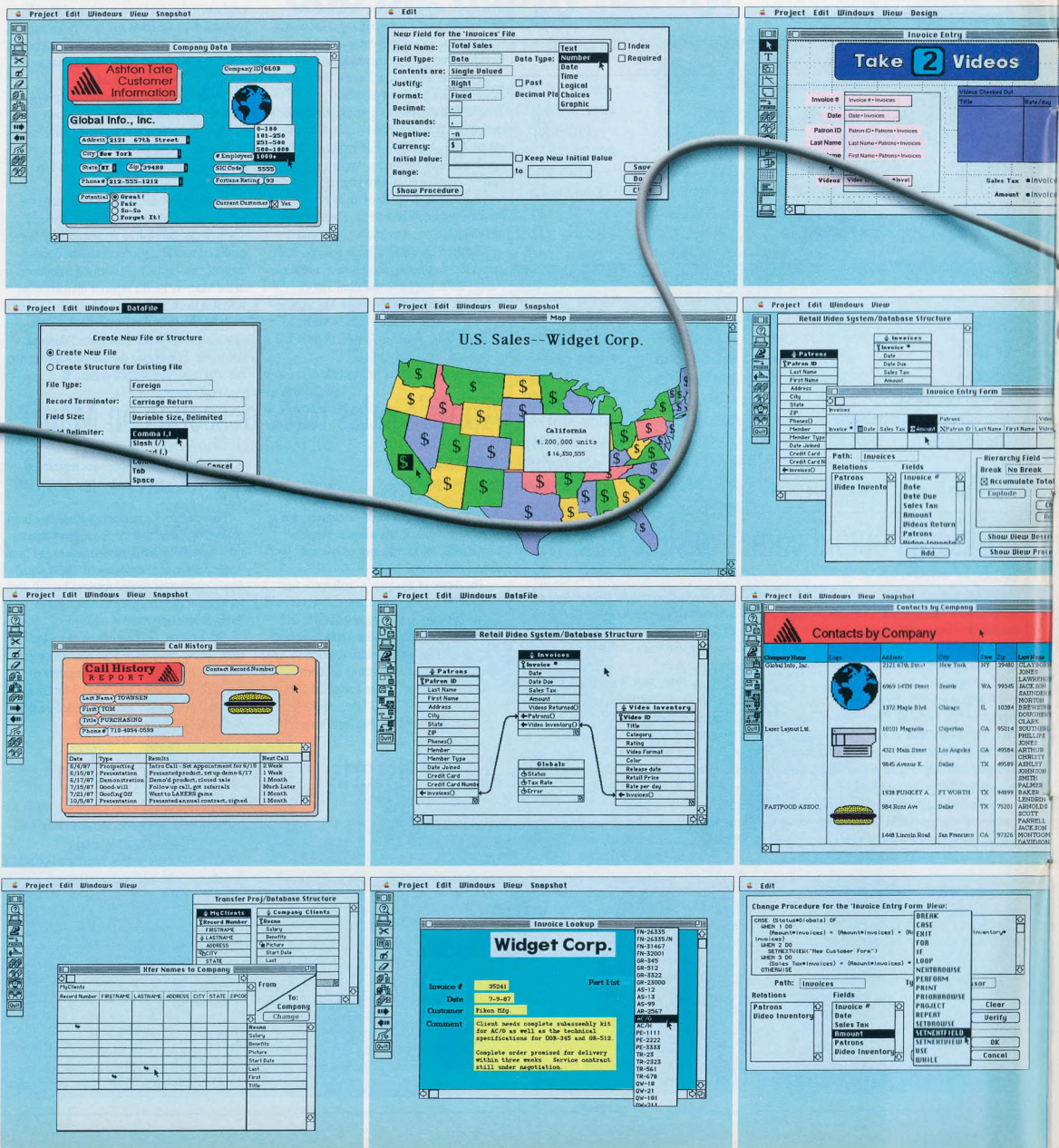

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SoftQuad's Author/Editor uses SGML publishing language

BY JIRI WEISS
MacWEEK Staff

TORONTO — A non-WYSIWYG desktop-publishing program, Author/Editor, that brings the ease of Macintosh use to a publishing standard for books, technical manuals and scientific papers will ship at the end of November, according to the program's publisher, SoftQuad Inc.

Instead of formatting each page on the Mac screen as with desktop-publishing packages such as Aldus Corp.'s PageMaker or Quark Inc.'s XPress, users of Author/Editor insert preset Standardized General Mark-up Language (SGML) formatting commands into their text.

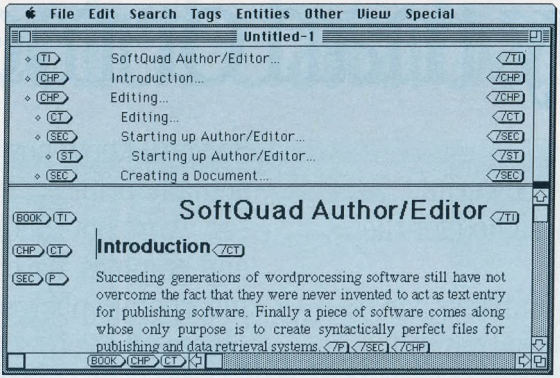
Users can create a document with Author/Editor directly because it includes the features of a word processor, and they need not worry about type style or page layout, said Yuri Rubinski, the Toronto company's president. "The program separates form from content."

SGML is an international document-description language using ASCII commands. In the United States it has been adopted by the Association of American Publishers, the Department of Defense, Hewlett-Packard Co., Boeing Co. and Elsevier Science Publishers, U.K.

SGML is becoming a standard, said Jonathan W. Seybold, president of Seybold Publications of Media, Pa., and an authority on desktop publishing. "If you are a contractor or laboratory preparing your contract, you are required to submit a machine-readable version in SGML form," he said

The innovative aspect of the program is that users do not have to worry about the details of this difficult language, according to Seybold. Normally, users add SGML formatting commands on a word processor. "It's a very exacting thing and very easy to make a mistake," he said.

With Author/Editor, you label a particular piece of text as a title, headline or footnote, without worrying about the content of the commands. The label, called a tag, shows up on the screen in an arrow.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Starting up Author/Editor...
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SoftQuad Author/Editor
Introduction
Succeeding generations of wordprocessing software still have not overcome the fact that they were never invented to act as text entry for publishing software. Finally a piece of software comes along whose only purpose is to create syntactically perfect files for publishing and data retrieval systems.

With Author/Editor, a non-WYSIWYG desktop-publishing program for the Mac that uses the SGML international document-description language, users can label a piece of text as a title, headline or footnote without worrying about the content of the commands.

The program also indicates how the final page will look. If a piece of text is labeled as a title, for example, it appears in bold format, centered on the screen. "It's very clear what is a heading and what is copy," Seybold said.

But SGML does not handle tables very well and does not handle graphics at all. These must be imported from other programs. "SGML breaks down where form and content come together," Seybold said.

The program comes with six files of rules for creating books, articles, memos, technical documents, conference proceedings and reports. A Rules Checker ensures that the user has the elements needed to publish the document. A Rules Compiler guides expert users in the creation of reports.

Author/Editor produces a pure ASCII file that can be read by SoftQuad Publishing Software running on any UNIX workstation. SoftQuad Publishing Software starts at about $2,000, but it will be available on the Mac II under AU/X for $995 as soon as Apple's version of UNIX is available.

Author/Editor will sell for less than $700, according to Rubinski. The two programs are intended to work together on UNIX/Mac networks. "The real uniqueness of Author/Editor is that it is designed to be a front end for a publishing system of any sort," said Rubinski. It can be used in conjunction with high-end publishing systems such as Interleaf's Technical Publishing System, he said.

Author/Editor can output to PostScript devices such as a LaserWriter, but it cannot reproduce multiple columns and hyphenation, Rubinski said.

SoftQuad Inc. is located at 720 Spandia Ave., Toronto, Canada M5S 2T9; (416) 963-8337. ■

HyperCard expected to have major impact on software development

BY STEVE WILCOX
Special to MacWEEK

CORVALLIS, Ore. — Whether it's viewed as a problem or an opportunity, HyperCard will have a major impact on Macintosh software development.

That was the consensus of industry representatives gathered recently for the MacHack West conference, held here at Oregon State University.

"If a vendor says, 'HyperCard doesn't matter,' he's either being naive or sneaky," said Ned Horvath of Manx Software Systems Inc. of Shrewsbury, N.J.

In the debate over whether user-written HyperCard stacks will replace application programs, most speakers chose the most optimistic view — that HyperCard will expand the market.

Keynote speaker Danny Goodman, author of "The Complete HyperCard Handbook," described his 18-month involvement with the WildCard project that began with an invitation by John Sculley, Apple president, CEO and chairman, after Goodman had questioned Sculley for an interview that was later published in Playboy. (See story, Page 12.)

Developer resistance to HyperCard was merely a fear of the unknown, according to Goodman. "The threat to most developers is not real," he said.

However, in response to accusations made by Alan Boyd, president of Owl International of Bellevue, Wash., Goodman said that HyperCard designer Bill Atkinson had specifically avoided seeing Owl's hypertext product guide.

Goodman said developers should avoid attributing either too wide or too narrow a focus to HyperCard's capabilities and market.

On one hand, despite relational database capabilities, it is a "browsing environment," not a full-fledged database, he said. On the other hand, HyperCard can't be dismissed as just a text-retrieval system.

Goodman predicts it will have a major impact on electronic publishing, college training, vertical markets, and even real-time control. Horvath predicts HyperCard will become the ideal rapid prototyping environment, with users approaching professional programmers to convert their stacks into real applications.

An innovative use of HyperCard was offered by Dan Weston of E-Machines Inc. of Tualatin, Ore. Weston, the author of several Macintosh programming books, published his speech as stackware. His stack — describing how to develop Macintosh II boards — included sample source code for board firmware. It was available to attendees on the AppleShare file server in a university computer lab. ■

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MacWEEK (ISSN 0892-8118) is published weekly, except for two weeks at year-end, by MacWEEK Inc. 525 Brannan St., San Francisco, Calif. 94107, a subsidiary of Patch Communications, 5211 S. Washington Ave., Titusville, Fla. 32780. Single copy price including postage: $5. One-year subscription rates: U.S. $75, Canada/Mexico US $150, International: US $300 (airmail). All orders must be prepaid. Subscription inquiries should be directed to the Circulation Department, 5211 S. Washington Ave., Titusville, Fla. 32780, or call (305) 269-2687. Application to mail at second-class postage rates is pending at San Francisco, Calif., and additional mailing offices.

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START WITH SOMETHING SOFT
New desktop publishing and graphics software for the Macintosh market is continually being introduced and improved.
There are even new markets being created, such as desktop illustration with products like SuperPaint and Adobe Illustrator. And desktop presentations with products like More from Living Video Text and PowerPoint from Forethought.
The LaserView monitor can support them all.
And help make your business look better in the process.
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LASERVIEW

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PS Compose offers typesetting features

BY JIRI WEISS
MacWEEK Staff

SAN FRANCISCO — A professional desktop-publishing package being readied by PS Publishing Inc. bridges the gap between desktop publishing and typesetting.

Users of PS Compose will be able to work on a document in the WYSIWYG mode and fine-tune it with typesetting codes, according to the company.

"It's the only program to bridge the gap," said Barry Weiss, a beta tester who works as a product leader at Varityper, a manufacturer of typesetting machines in East Hanover, N.J.

PS Compose displays typesetting code on one Mac screen while showing a WYSIWYG page on another. Users can work in both screens. The typesetting screen supports the MCS (Modular Composition System) code used by Compugraphic Corp. of Wilmington, Mass., in its typesetters. Work done on one screen is automatically reflected on the other. Two screens are recommended.

PS Compose allows users to fine-tune a page design beyond the capability of their Mac screen or of traditional WYSIWYG packages, according to Robert Simon, the company's president. "The codes allow you to operate in the units of the output device," he said.

PS Compose is intended for professional typesetting houses or corporate publishing departments. "Users may use the WYSIWYG and then turn it over to typesetters to fine-tune it. Existing publication packages don't give users enough control to make them suitable in the commercial environment," Simon said.

Rollinson Design Inc. of Palo Alto, Calif., was sending out some of its typesetting because it needed control of typographic elements such as kerning and leading, especially for large type sizes, said company President Bill Rollinson. Rollinson Design became a beta tester for PS Compose six months ago. "PS Compose is like a front end to a typesetter. We sent some type to be set outside; now we have the capability on a Macintosh," Rollinson said.

The program will import graphics via the Clipboard or from a disk. Encapsulated PostScript (EPSF), MacPaint, MacDraw and PICT graphics are supported. PS Compose will incorporate ThunderScan, Microtek and TIFF halftone images directly from a disk, according to PS Publishing. Both line art and halftone images are displayed on the WYSIWYG screen, where they can be sized and cropped.

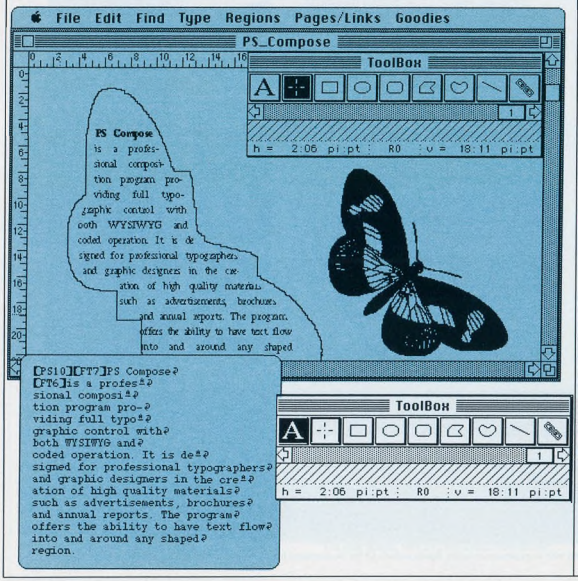
Text can be flowed within regions like rectangles, ovals, polygons and freehand regions. Regions are created with MacDraw-like tools on the WYSIWYG screen and can be linked.

PS Compose translates the codes into PostScript and can drive Linotronic 100 and 300 typesetters as well as Compugraphic 8400 and 8600 machines. Graphics output will be supported only on PostScript devices. Drivers for Linotype 202 and typesetting machines from Varityper will be added later, Simon said.

PS Compose will sell for $800 for a PostScript version. A version that will drive Compugraphic typesetting machines will cost $2,000, Simon said. PS Compose is scheduled to start shipping before the end of the year.

PS Publishing Inc. is located at 290 Green St., Suite 1, San Francisco, Calif. 94133; (415) 433-4698. ■

Users of PS Compose can lay out a page with graphics on a WYSIWYG screen (top screen) and refine it by altering typesetting commands automatically generated by the program on another screen.


File Edit Find Type Regions Pages/Links Goodies
PS_Compose
ToolBox
PS Compose is a professional composition program providing full typographic control with both WYSIWYG and coded operation. It is designed for professional typographers and graphic designers in the creation of high quality materials such as advertisements, brochures and annual reports. The program offers the ability to have text flow into and around any shaped region.
[PS10][FT7]PS Compose
[FT6]is a professional composition program providing full typographic control with both WYSIWYG and coded operation. It is designed for professional typographers and graphic designers in the creation of high quality materials such as advertisements, brochures and annual reports. The program offers the ability to have text flow into and around any shaped region.
ToolBox

SNAPSHOTS

TOPS for the PC hardware and software are unbundled

BERKELEY, Calif. — TOPS, A Sun Microsystems Co. (formerly Centram Systems West) last week announced it is unbundling its PC networking product, TOPS for the PC.

The hardware and software components of TOPS for the PC, which links IBM PCs to Mac PCs and other systems, have been renamed and will be available Nov. 6, the company said.

A TOPS spokeswoman said the TOPS networking card, called TOPS FlashCard, will cost $239. The software component, renamed TOPS/DOS, will be $189.

Nat Goldhaber, TOPS president and CEO, said selling TOPS FlashCard and TOPS/DOS separately will benefit users of TOPS Print, a spooler and print software package that lets PC users access LaserWriter and other PostScript-compatible printers on AppleTalk.

Previously, TOPS Print users were required to buy both TOPS networking hardware and software, Goldhaber said.

TOPS also said the unbundling will allow hardware vendors to develop new products compatible with TOPS networking software.

TOPS is located at 2560 Ninth St., Berkeley, Calif. 94710; (415) 644-0267.

CMS drive boosts Mac II performance

TUSTIN, Calif. — Macintosh II owners who want to speed up their computer can increase data transfer rates with CMS Enhancements' new 140-Mbyte internal disk drive, the PRO-140K II/i.

The drive boosts data transfer time to the fastest rate possible on the Mac II, according to Alan Taylor, CMS vice president of marketing.

"The performance rate of the Mac II is dramatically faster with our drive. The PRO-140K-II/i exactly matches the Mac II's SCSI port transfer rate of 1 megabit per second," Taylor said.

The PRO-140K II/i is the newest addition to CMS' PRO-Series line of internal and external hard disks for the Macintosh. The suggested retail price is $2,695.

CMS also manufactures an 80-Mbyte internal drive for the Macintosh II priced at $1,695.

CMS Enhancements Inc. is located at 1372 Valencia Ave., Tustin, Calif. 92680; (714) 259-9555.

Plotting service outputs large drawings

SAN FRANCISCO — CAD users can output large drawings without waiting for a pen plotter or buying a $60,000 electrostatic printer.

Blue Print Service Co., a plotting service, will print drawings up to 43 inches wide overnight on a Versatec Model 7444 electrostatic printer with a resolution of 400 dpi.

Drawings, reproduced from a disk and printed on bond paper or velum, cost $3 per square foot. On mylar, prices range from $4 to $8 depending on the total order, according to the company.

Blue Print is a two-shift operation, said Herb E. Liberman, the company's vice president of sales and marketing.

"Customers can bring in their diskette late in the day and have it ready by early evening or the next day," he said.

The company can receive and send orders via Federal Express.

The service plots drawings from MacDraft, MacDraw, MGM Station and EZ Draft. It handles output from AutoCAD, McDonnell-Douglas Graphic System (GDS), 925 Offline Format and Versaplot.

Blue Print Service Co. is located at 149 Second St., San Francisco, Calif. 94105; (800) 521-PLOT in California or (800) 221-PLOT in the continental United States.

DataViz product gives full Wang VS emulation

NORWALK, Conn. — DataViz recently announced an addition to its line of connectivity products for the Macintosh that gives Mac users access to the Wang VS System.

The software, MacLinkPlus/Wang VS, gives Mac users full Wang workstation emulation for $395, providing access to the Wang word processing, data processing and electronic mail applications.

Macintosh users avoid the need to learn Wang's complex keystroke commands by using the emulator. The 32 Wang function keys, such as Help, Cancel and Execute — used extensively in Wang applications — are executed through standard Mac pulldown menus or the optional Apple Macintosh extended keyboard.

File transfer capabilities allow full access to Wang VS data processing and word-processing libraries. File formats are preserved through a set of more than 30 file translators that convert data content and formats among Macintosh, Wang and IBM PC formats.

Other products in the MacLinkPlus line include the original MacLinkPlus, which links Macs to IBM PCs, for $195; the MacLinkPlus/WangPC for $245; and the MacLinkPlus/NBI for $495.

DataViz Inc. is located at 16 Winfield St., Norwalk, Conn. 06855; (203) 866-4944.

Even 'Mr. PC' develops Mac fever

BY CLAIR WHITMER
MacWEEK Staff

SANTA MONICA, Calif. — The parade of PC programs coming to the Mac may grow longer. Peter Norton, the file recovery guru who has been dubbed "Mr. PC," is taking a long, hard look at the Macintosh and thinking about the possibilities.

Norton's company, Peter Norton Computing, has started R&D for the Mac with the help of an experienced programmer from a Mac software company.

With the company still in its budding stage, there are no early indications of what products will result from Norton's involvement in the Mac market.

"We don't feel comfortable talking about projects that don't exist yet. If you look at our history, you'll see that we tend to announce products when they're available, not before," said John Socha, PNC's manager of new-product development.

According to Norton, though, the end result of the project will be in the same broad genre of products for which Norton is famous — file utilities and disk management.

"We're scratching our heads and saying, 'What's the best stuff we can do for the Macintosh arena?' We're not going to try to do anything weird that we haven't done before," Norton said.

He was quick to dispel any notion that the company is simply rewriting its present product line, saying that Macs and PCs are different animals. "We're not going to simply port what we do in the DOS world onto the Mac, but we are going to port some of the same filling of needs," he said.

The burgeoning size of the Mac market and the growing acceptance of the machine by power users inspired the company to get its feet wet in the technology.

"It's an idea whose time has come. No one was sure whether or not the Macintosh would be successful, but it's becoming clear that it's going to be successful. We're in the business to make money," Socha said.

"You don't have to be a deep thinker to know that the Mac has the best technology," said Norton.

Norton earned his reputation as a programmer by introducing the first file recovery utility for the IBM PC, giving panicked users the key to recovering accidentally deleted files. The word "undelete" made him famous.

DOUGLAS KIRKLAND

> "You don't have to be a deep thinker to know that the Mac has the best technology."
>
> **PETER NORTON, Peter Norton Computing**

With November as a starting date, the lead time for a utility product is six months to a year, said developers already established in this arena. Norton won't specify any timetable.

The company faces significantly more competition than it did at the time the original Norton's Utilities, a one-of-a-kind product, was introduced.

Despite Norton's stature in the PC industry, developers in the Mac utility market don't express any fear about his possible arrival on their turf.

"For the PC, he walked in there on Day 1 and sewed up the market," said Michael Brown, president of Central Point Software Inc. of Portland, Ore., maker of Copy II and MacTools. "For him to be dramatic in the Macintosh market, he'll have to come up with a new idea or a really incredible package."

PNC "is going to be covering ground that's already been covered and covered well," said Susan Monjan, president of 1st Aid Software of Boston.

Although the bottom line is the product, whatever that turns out to be, Norton's potential competitors acknowledge that his name alone is a marketing tool to be respected.

"He'll get a significant amount of recognition and make a good impact just based on the name," said Les Herbst, president of Micro-Analyst of Austin, Texas. ■

Two networking products from Shiva

BY CLAIR WHITMER
MacWEEK Staff

CAMBRIDGE, Mass. — Spurred by a strategy of offering products with similar capabilities for lower prices, Shiva Corp. is primed to introduce two new networking products.

Following the successful introduction of its NetModem product, Shiva plans to release NetSerial X232 this month, according to Frank Slaughter, engineering director.

On the heels of NetSerial's release, the Cambridge, Mass., company plans to unveil another product, NetBridge, in the beginning of November.

NetSerial bears a functional resemblance to MultiTalk from Abaton Technology Corp. of Pleasanton, Calif., although Shiva claims its product has more uses. NetSerial connects devices with standard RS-232 serial interfaces as resources for all computers on an AppleTalk network. The product's most unique feature, and the one Shiva is promoting most heavily, is the ability to dial in for remote network access.

If NetSerial is installed on the network, users can dial into the network from a remote location using a modem and a Desk Accessory called Async AppleTalk. The user can then access network files, transfer files and perform any other network-related operation. The product is compatible with InterMail from Internet of Waban, Mass., and InBox from Think Technologies of Lexington, Mass., as well as with TOPS, the network product from TOPS, A Sun Microsystems Co. of Berkeley, Calif.

Comparing NetSerial with MultiTalk, Slaughter said NetSerial "is a lot more flexible and somewhat more transparent."

It also is significantly less expensive, with a retail price of $399.

NetSerial includes 8 Kbytes of internal RAM, which can buffer data when the network is busy. It also allows Shiva to upgrade the firmware without having to send out entire new units upgrading software. In addition, the added memory will accommodate what Shiva is calling "personality modules."

Although no software is available to utilize this option yet, the company plans to provide separately sold software that will endow NetSerial with some of the features of NetModem. Other potential software could include MNP, a modem error-correcting protocol.

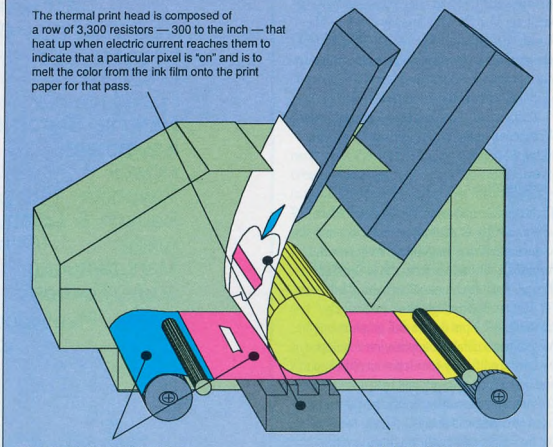
NetBridge allows several small AppleTalk networks to be combined or a large network to be divided into "zones." The product is intended to compensate for the limit of 32 devices per network, allowing a local AppleTalk network to be twice as large.

It performs a function similar to InterBridge from Hayes Microcomputer Products Inc. of Norcross, Ga. However, NetBridge cannot do remote bridging of networks, which allows Shiva to sell NetBridge for $399, approximately half the price of InterBridge, Slaughter said. In addition, Shiva hopes to take advantage of the distribution problems that Hayes is having with InterBridge, which Slaughter said have alienated some users.

A Hayes spokesman said the delay in delivery is only temporary. "We are working to meet the demand for InterBridge and expect to improve the availability of this popular product soon," said Garry Betty, Hayes senior vice president. ■

HOW THE QMS PRINTER WORKS

Adobe's recent demonstration at the Seybold Desktop Publishing Conference of a three-color PostScript driver — to be developed by QMS for a Mitsubishi printer engine — introduces a new dimension and elegance to desktop image output, for about $20,000.


The thermal print head is composed of a row of 3,300 resistors — 300 to the inch — that heat up when electric current reaches them to indicate that a particular pixel is "on" and is to melt the color from the ink film onto the print paper for that pass.
The color ink film consists of three disposable panels of wax-based ink on a plastic film carrier, parts of which melt as they pass over the print head and transfer to the print paper every sequential row of on and off pixels.
Print paper, 8.5- by 11-inch to 11- by 17-inch in size, advances with the color ink film to receive the sequential impression of each of more than 4,400 rows of pixel impressions — 300 to the inch — first for cyan, then backs up, in turn, for magenta and yellow.

LASLO VESPREMI

Macs help speed up identification of plane crash victims

BY KRISTIN KNAUTH
Special to MacWEEK

DETROIT — Following the Aug. 16 crash of Northwest Airlines Flight 255 outside Detroit, Mac-based technology was the foundation of a prototype system for identifying victims.

When the crash occurred, Dr. Werner Spitz, the Wayne County, Mich., medical examiner and coordinator of the follow-up efforts, and Dr. Allan Warnick, the county's chief forensic dentist, contacted E. Steven Smith, D.D.S., of Northwestern University in Evanston, Ill. Smith, founder and chairman of the forensic dental department at Northwestern's School of Dentistry, had been developing a computerized graphics-based system for victim identification since 1979. Together with Forrest Lorz, a forensic computer consultant, and Bert Cutler, developer of ToothPics dental charting software, Smith had assembled a unique graphics-oriented system for helping forensic teams identify victims of mass disasters more quickly and easily than ever before.

"We literally had finalized the system just two weeks before the crash," Smith said. A "mock disaster" had been staged at Northwestern University, and Lorz was in Maryland fine-tuning the software.

Smith helped Warnick pull together a team of experts. In addition to Lorz and Cutler, he called upon several of his colleagues from Northwestern University and ACIUS Inc. of Cupertino, Calif., which sent David Feldt, a consultant for the 4th Dimension database program used in the system, to Detroit.

As soon as he arrived at the disaster site, Smith reviewed the available technology, then placed a call to John Sculley, Apple president, chairman and CEO, to request his assistance in obtaining Mac IIs. "We already had four Mac Pluses," Smith said. "They were doing a fine job in the data-input phase, but we wanted as much power as possible for inter-database querying, and the IIs are so fast."

Sculley had two Mac IIs and several LaserWriters and ImageWriters airlifted to the site within 12 hours.

Configuration

The complete system consisted of six Macs with either 20- or 40-Mbyte hard disks linked to the LaserWriters and ImageWriters with AppleTalk. ToothPics from Class One Ltd. of Tempe, Ariz., a commercial charting software for dentists that uses graphics extensively, served as the input device and graphics engine. MatchPics, a database application developed by Lorz specifically for victim identification and being further developed by Class One Ltd. for humanitarian and scientific purposes, facilitated querying and analysis among the three databases. The database application was ACIUS' 4th Dimension, a relational database with a programming language, layout graphics and multi-user capabilities.

Smith and Lorz had chosen or developed all the applications tools primarily for their highly accessible graphics-based interfaces, as well as for their speed, functionality and import/export capabilities.

Landmark results

When the forensic work began, an agent of the Federal Bureau of Investigations at the site estimated it would take three weeks to identify all the victims in the nation's second-worst airline disaster in history. The dental team accomplished its task in four and one-half days, identifying 129 of the 156 victims.

"Never before had computers been used in this way for victim identification," said Lorz. "They were on site and networked, with sophisticated graphics and database applications."

Lorz said: "The tools we used — ToothPics, MatchPics — exploit Mac graphics to the fullest. I trained two or three dental students and then was able to spend most of my time backing up the system and performing more sophisticated functions. I think Apple has a right to be proud of this accomplishment."

"The Macs made a tremendous difference," Feldt said. "The emotional shock and physical exhaustion experienced by team members was so severe that many of us found it difficult even to type. Yet people who weren't computer-literate at all were taught to use two new software packages and a database language within hours. I couldn't imagine doing that with MS-DOS or other systems."

Lorz uses the term "computer-aided victim

These Fortune 500

General Motors **Exxon** Ford Motor **IBM** Mobil **General Electric** AT&T **T**
Nabisco Shell Oil **Boeing** United Technologies **Procter & Gamble** C
Rockwell International Allied-Signal **Eastman Kodak** Dow Chem
Petroleum **Xerox** PepsiCo **Standard Oil** General Dynamics **Kraft** Coca
Digital Equipment Unocal **Unisys** Caterpillar **Raytheon** LTV **Hewle**
Motorola Pillsbury **Weyerhaeuser** Northrop **Ralston Purina** Internati
Bristol-Myers Martin Marietta **PPG Industries** Alcoa **General Mills** CF
Champion International Campbell Soup **H.J. Heinz** Bethlehem Steel
Laboratories **Time Inc.** SmithKline Beckman **Boise Cascade** Eli Lilly
Motors Grumman **Scott Paper** Cooper Industries **Navistar Internati**
Products USG **Gillette** Gannett **Ingersoll-Rand** Farmland Industries
Corp. Combustion Engineering **Squibb** Lever Brothers **Lear Siegler** Sher
Harris Land O'Lakes **Hershey Foods** Singer **Rohm & Haas** Tribune **Pi**
International Armstrong World Industries **Manville** Knight-Ridder **Appl**
Black & Decker Pennzoil **Brunswick** Mack Trucks **Olin** Int'l Mineral
Semiconductor Cental Soya **AMAX** Gould **Sundstrand** Square D
Foods **Data General** Intel **Washington Post** EG&G **E-Systems**
National Starch & Chemical **Timken** Esselte Business Systems **Harc**
Equipment **Varian Associates** Dayco **M/A-Com** Champion Spark Plu
Howell **Cincinnati Milacron** Rorer Group **General Instrument** M
Raychem **A.H. Robins** Tandem Computers **GAF** Amdahl **Briggs &**
Bausch & Lomb **Storage Technology** Telex **Snap-on Tools** Loral
Computer Cameron Iron Works **Intergraph** Westmoreland Coal **C**
Manufacturing **Harte-Hanks Communications** Advanced Micro De
Bard Foxboro **Phillips Industries** Herman Miller **Stanadyne** SCI S
Xidex Fleetwood Enterprises

...read Mac

identification" to describe the system, which, he said, "is similar to computer-aided design in that computers cannot accomplish the function alone but are a superior tool for helping humans achieve quick, accurate results." The computers generated "probability lists" of up to five individuals that were reviewed by a forensic expert who made the final determination.

The reports produced by the system for the Wayne County medical examiner also were innovative, with individual, printed storyboards explaining with graphics and text the basis for each identification. ■

Dove answers Apple by cutting prices on 2-Mbyte upgrades

WILMINGTON, N.C. — Responding to Apple's sharp reduction in the cost of its memory upgrades, Dove Computer Corp. recently lowered the price on its 2-Mbyte upgrade for the Mac Plus, SE and II from $999 to $749.

Dove's price for the upgrades with the hard-to-get 1-Mbit memory chips, does not match Apple's suggested retail price of $599 for its 2-Mbyte upgrade.

Dealers who purchase large quantities from Dove will be able to beat Apple's price, said E. Kyle Tyner, Dove's marketing manager.

"Our products use CMOS SIMMs, which generate less heat," Tyner said. They work equally well in the Mac Plus, SE and II, she said. Dove's 4-Mbyte upgrade will sell for $1,495; an 8-Mbyte upgrade for the Mac II will sell for $2,990.

Dove has increased the price of memory products that use the 256-Kbyte dynamic RAM (DRAM). The cost of a 1-Mbyte MacSnap upgrade was increased to $339 from $299.

"We have been absorbing the increase in the price of DRAM chips. We can't do that any more," Tyner said. "To make up for the increase, Dove is including its RAM disk memory cache software for free."

Dove Computer Corp. is located at 1200 N. 23rd St., Wilmington, N.C. 28405; (800) 622-7627 or (919) 763-7918. ■

Companies...

aco E.I. du Pont de Nemours **Chevron** Chrysler **Philip Morris** Amoco **RJR** cidental Petroleum **Atlantic Richfield** Tenneco **USX** McDonnell Douglas l **Westinghouse Electric** Goodyear Tire & Rubber **Lockheed** Phillips ola **Minnesota Mining & Manufacturing** Sara Lee **ITT** Union Carbide **Packard** Honeywell **Johnson & Johnson** Monsanto **W.R. Grace** TRW al Paper **Colgate-Palmolive** Texas Instruments **Emerson Electric** NCR nternational **North American Philips** Litton Industries **Pfizer** IC Industries **mberly-Clark** Merck **Amerada Hess** American Cyanamid **Eaton** Abbott **esser Industries** BASF **Owens-Corning Fiberglas** Deere **American al** Control Data **Kellogg** Teledyne **Mead** Armco **FMC** Times Mirror **Avon uehauf** Wang Laboratories **Johnson Controls** Hercules **James River** -Plough **Jim Walter** Cummins Engine **Upjohn** Kaiser Aluminum & Chemical **ey & Bowes** Air Products & Chemicals **Morton Thiokol** AMP **Allegheny Computer** Corning Glass Works **Westvaco** Joseph E. Seagrams & Sons Chemical **Polaroid** Crown Cork & Seal **Ethyl** McGraw-Hill **National ktronix** Amstar **Adolph Coors** Becton Dickinson **Perkin Elmer** Dean w Jones **Avery International** Pennwalt **Rexnord** Dow Corning **Ball rt Brace Jovanovich** Fairchild Industries **Vulcan Materials** Clark **Lone Star Industries** Deluxe Check Printers **Prime Computer** Bell & millan **Chromalloy American** Economics Laboratory **Hughes Tools atton** Nalco Chemical **Nashua** Dennison Manufacturing **Wm. Wrigley g Three Industries** Media General **Tracor** Rohr Industries **Compaq Research** Kaman **H.H. Robertson** Georgia Gulf **Jostens** Butler ces **Ametek** CooperVision **Standard Register** Shaw Industries **C.R.** ems **Scientific-Atlanta** Seagate Technology **Millipore** Barnes Group

WEEK every week.

Solana's R-Server provides remote connection with AppleTalk network

BY EMILY BROWER
MacWEEK Staff

SOLANA BEACH, Calif. — Solana Electronics has joined the network connection market with its introduction of a line of network bridges and peripheral servers for the Mac.

As of late September, only the R-Server, a network half-bridge, has shipped, but the remaining products will be released from now through the first quarter of 1988, said Sue Sinclair, marketing analyst at Solana.

The R-Server, priced at $595.95, provides a single node for remote connections between a Macintosh and an AppleTalk network. Installation of the remote-node connection requires two modems, both operating at the same baud rate; one R-Server; and Solana's installation software. The R-Server, which resides at the network end of the configuration, imitates a node on the network through a connection between the two modems.

> "It is possible to have up to 30 R-Servers on any one network connected to 30 other networks."

A long-distance link between two remote networks — also called a full bridge — can be created using two R-Servers. The configuration is similar to the half-bridge, but the additional R-Server allows two remote networks to connect through the two modems. A typical full-bridge configuration starts at one end, with an AppleTalk network, an R-Server and a modem connected to another modem, and the R-Server and AppleTalk network at the other end.

"It is possible to have up to 30 R-Servers on any one network connected to 30 other networks, but five on one network is the most we've seen so far," said Sinclair.

Solana's unreleased products are variations on the R-Server. The I-Server, slated to be released this month, creates a full bridge between two local AppleTalk networks. Solana has two products in the works for networked peripheral sharing, the C-Server and the P-Server.

Solana Electronics is located at 742-K Genevieve, Solana Beach, Calif. 92075; (619) 481-6384. ■

Professor Macintosh

Kinko's packages university talent

BY ELINOR CRAIG
MacWEEK Staff

CUPERTINO, Calif. — In a tall brick office building in downtown Philadelphia in 1984, Eva Thury, an English professor at Drexel University, puts the final touches on her educational writing and editing program, Tools for Writers.

Across the country at Stanford University in Palo Alto, Calif., Professor Carolyn Lougee of the history department has been working on "The Would Be Gentleman," a simulation program of social mobility and interaction in France during the reign of King Louis XIV.

These professors, part of a select but growing group, were seeded by the Apple University Consortium (AUC) program to develop interactive "courseware." From math and music theory to research training and legal tort exercises, students are reaping the benefits of AUC through stimulating teaching techniques. This new level of instruction was not an accident. It was the product of careful planning between Apple and professors across the country. Once in motion, the project was scooped up by Kinko's, a Santa Barbara, Calif.-based publishing and duplicating service. It created a market: Kinko's Academic Courseware Exchange (ACE).

With a keen eye for new business trends, Kinko's had heard about courseware soon after the project began and proposed a move into the then-untouched market. Kinko's prepared a plan and submitted it to Apple.

In just over a week, Apple heard Kinko's proposal and approved its marketing plan. "It was a surprise that they were so perfect for the job," said Ken Rosen, software and technology manager in higher education marketing at Apple. "We had in mind a more traditional publisher."

Kinko's was a natural; its distribution system was already set up. "Basically, we know what we are good at and that is duplication," said Keith Lawrenz, managing director of ACE. "We were looking for ways to take advantage of our network of stores on campuses across the nation."

Kinko's now has 320 stores and has provided publishing and duplication services for 500 campuses for 16 years.

Through EDUCOM, an organization of universities based in Princeton, N.J., member institutions came up with a concept. Then the professors, Kinko's and Apple discussed the needs and potential of a publishing and distribution network for realizing their common dream: a caucus or vehicle to exchange software.

With Apple, Kinko's has forged a lucrative computer frontier. For the first six months of 1987 Kinko's paid out $62,000 in royalties This was only the second semester that courseware was available. This sum includes a 5 percent to 40 percent return for the developer. Kinko's maintains a 30 percent margin for marketing, distribution and profit.

LESLIE HOLTZMAN

The Apple University Consortium program promotes development of computer "courseware."

And Kinko's can still hold courseware prices between $8 and $40, making it as easy for professors to include courseware as books in their curriculum.

In 1985, Kinko's took a calculated risk. It made a commitment to Apple when IBM was the only game on the business block.

Something about the Mac and the people at Apple convinced Kinko's. "We saw a potential because of Apple's marketing stand," said Lawrenz. "We have compatibilities with their style. For instance, Apple was marketing from the top down. We were marketing from the bottom up."

Kinko's focuses on professors. "We want to pinpoint our market," said Lawrenz. "And that is specifically the professor who will use and develop our products."

Apple is positioned to make money, too. AUC, announced when the Mac was released in 1984, includes 32 campuses. This year Apple's higher education sales are up 75 percent from last year. This represents only 20 percent of the student market, according to Kathleen Dixon, Apple's public relations manager for the higher education market.

"It is a wide-open market, with 12.6 million students today and 2.5 million incoming freshman. With 1.7 million faculty and administrators, this makes Kinko's distribution crucial and only a bud compared to what it can be," she said.

See KINKO'S, Page 13

Goodman: The complete HyperCard author

BY STEVE WELSH
Special to MacWEEK

CORVALLIS, Ore. — If the success of Danny Goodman is put into words, one day it will probably read like this:

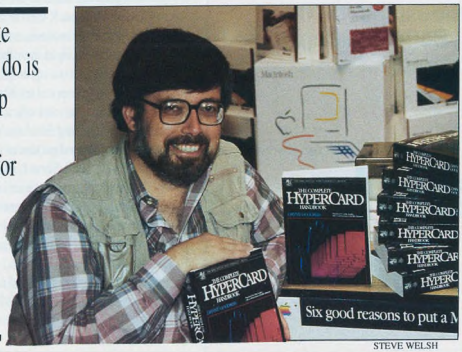
```
on mouseUp
    open stack "John Sculley"
    pop card "Bill Atkinson"
    put Danny Goodman into background
        "HyperCard"
    show text field "The Complete
        HyperCard Handbook"
end mouseUp
```

Perhaps such a description — in HyperTalk — is as fitting a capsule of author Danny Goodman's life as any other accolade.

His book, "The Complete HyperCard Handbook," which debuted simultaneously with Apple's latest software, will begin its third printing in October. (See review, Page 27.) Not bad when you consider that the 720-page book, published by Bantam Computer Books, is only 2 months old. A sequel HyperCard book is already in the works. And while others' heads spin and jaws drop over the marvels of HyperCard, Goodman has already fathered the first commercial stackware for HyperCard — Business Class and Focal Point — to be released in November.

"It seems like everything I do is trying to help people use technology for their own benefit."

DANNY GOODMAN



STEVE WELSH

Where he once found himself searching for attention from publishers, Goodman now finds himself the center of attention within the Macintosh community, even — although he emphatically disclaims any formal allegiance — a "spokesman" for Apple.

Goodman's name is almost as synonymous with HyperCard as its creator, Bill Atkinson. When you realize that his book was intended to be the "real" manual for HyperCard and Goodman had been working side by side with Atkinson much of the time HyperCard was secretly crafted, this should not be so surprising.

How this 37-year-old Chicago native became involved with HyperCard in the first place is a mystery.

Goodman easily asks himself, "Why me?" Even now, swinging on the coattails of HyperCard's success, he doesn't know the complete answer. But he does acknowledge luck, timing, Playboy magazine and John Sculley for becoming "The Chosen One."

After speaking at the MacHack West conference in Corvallis, Ore., last month, Goodman recalled how his association with HyperCard materialized.

An interview with Sculley, Apple's president, chairman and CEO, in early 1986 was the key. Goodman had a series of sessions with Sculley that resulted in an interview published in Playboy. During one session, Sculley said Apple had a product coming. He couldn't tell Goodman about it, but it would need a book to help describe it.

"Interested?" Sculley asked.

Goodman jumped, and a month later was sitting in Sculley's office with Sculley and Delbert Yocam, executive vice president and chief operating officer. Atkinson came in with a hard disk. He set it up on Sculley's Mac and started his demonstration.

"I got a tingle at that moment, something I had experienced only two other times — when I first saw a prototype of a Mac and the other when I saw a printout of a prototype LaserWriter," Goodman said, smiling.

To this day Goodman is still slightly baffled as to why Sculley selected him to do the book.

Some things were obvious. HyperCard is a deep product and Apple didn't want to scare people off.

"If they had to deliver a manual like that (Goodman holds up his book) … I mean, that's what comes in IBM boxes!" he said, laughing.

Being a part of a product's creation is a unique experience, and Goodman knew it. He already acknowledged Atkinson as a legend. Goodman and Atkinson live only an hour's drive apart on the Northern California coast and would often visit each other. Atkinson, well known for his Hawaiian shirts and independent work ethics, took Goodman under his wing. Goodman is not a programmer, but he surprised Atkinson and Dan Winkler

See GOODMAN, Page 13

KINKO'S

Continued from Page 12

"We think the combination of useful software and a Mac makes a solution that people want," said Rosen. "Until there is great software, there is only a great machine. ACE promotes the development of software, and that creates good solutions and more sales."

To date there are 13,000 Macs at Drexel University. The faculty develops software with the aid of 10 full-time programmers and 15 student programmers. Most of the software developed is for mathematics and chemistry.

Jan Biros, coordinator of the microcomputer program at Drexel, spoke with faculty, who said the quality of student work has increased dramatically. "ACE has encouraged a higher level of enquiry. By encouraging software development, we improve the quality of education at Drexel. Also, it sets us apart as a leader of development. And, increasingly, ACE has become an incentive for more development."

The incentive ACE provides is considerable. This spring Drexel presented with great fanfare the first royalty check from sales for the latter half of 1986. The $10,000 check was shared among faculty and students who had participated. The check ceremony indicated Drexel's support for the program, said Biros. But, the increase in the sum raises questions about royalty policies. Is software published material? Traditionally, then, royalties go to the writer. Or is it an invention? In that case, it belongs to the institution.

Drexel has the most progressive patent and copyright policy to date. Earnings up to $5,000 can be kept by the professor. The residual is split, with 60 percent going to the developer.

To guide ACE through the maze of new decisions and to maintain an academic sensitivity, an advisory board has been instituted. It is made up of seven high-level professors from a cross section of schools, not necessarily AUC campuses. Recently, after the board suggested it, Kinko's announced plans for site licensing.

"Apple planned AUC to be leaders in campus development and to aid Apple's penetration of the higher education market," said Dixon. "They set the groundwork. And now, because of ACE, anyone can take advantage of the work." ■

GOODMAN

Continued from Page 12

(developer of the HyperTalk language for HyperCard.)

"They couldn't get over the fact I was tracking them, keeping pace, especially while they were changing the language," he said. "They had so much to do, I was very grateful for every second they gave me. Dan Winkler and I spent 10 hours one day going over the book and my scripts. God, that kind of help, well, you can't buy that anywhere," Goodman recalled, rubbing his gray-sprinkled beard. Goodman found Atkinson to be just as generous, an intense individual with an extraordinary intellect. "He also listened very closely to what you had to say, which you don't always find in a highly creative person — or at Apple, period," Goodman said.

Meanwhile, Goodman soaked it all in. Opportunity, however, lacks guarantees. If HyperCard fell flat on its face, so would Goodman. But he believed. So much so that he wanted to be a part of HyperCard more directly.

"I came up with the idea of creating Business Class and Focal Point in December of '86," Goodman said. "Nobody at Apple had the vaguest notion of what I was cooking up. But I'm leaving the scripts open. I couldn't put everything into this book or even the next one, but I sure can let people poke around my stacks and get a lot of ideas."

Business Class, an international almanac accessed through a world map, will sell for $49. Focal Point, a personal/business information organizer, almost a Grand Central Station of one's daily or weekly activities, will be $99, according to Goodman.

"It seems like everything I do is trying to help people use technology for their own benefit," he said. "I feel I've always been able to take that little step back away from being very much involved in that technology and try to take the beginner's viewpoint."

John Sculley agrees."I knew Danny was an experienced writer, one who loved personal computing," Sculley said recently. "But because he wasn't a serious programmer, I felt he could tell the story [of HyperCard] well.

"When I showed him the product under non-disclosure, he had the same reaction I did — that this would be one of the most significant things that would happen in the industry. I knew he was a good technical writer," Sculley added. "The agreement was he would work alongside Bill as the product developed. I wanted to chronicle the birth of an incredible product and enable the readers to share in the adventure. The book reflects that," he said. ■

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'Defections' to IBM not all bad for Mac users

First it was PageMaker, then Omnis and now Excel. One by one, the stalwarts of Macintosh software are being ported over to the IBM PC.

To those Mac partisans who view the Apple-IBM rivalry as an East-West battle of superpowers, the announcements by Aldus, Blyth and Microsoft are nothing less than defections from the side of truth and justice. But unlike a defecting Soviet ballet dancer whose departure is, at worst, an embarrassment for the U.S.S.R., developers that cross software's Iron Curtain take with them some of the fundamental essence of the Macintosh.

Indeed, there is cause for concern that by focusing their efforts on PC versions, the developers delay new releases for their native machine. Important features and functions are introduced on the PC, while Mac users are left waiting for complementary upgrades to existing products.

To counter that concern, Microsoft announced an upgrade to its Macintosh Excel on the same day the PC version was unveiled. While the upgrade includes the ability to read PC files, among other additions, some features of the PC version are not supported on the Mac. Another upgrade, due by the end of 1988, will make the two versions functionally equivalent.

Blyth was less forthcoming about how soon Omnis 3 Plus will be made compatible with Omnis Quartz, its new PC database. Blyth said Omnis will be upgraded to read Quartz files in the first half of 1988, but the company would not commit to including other Quartz features.

Despite these delays, it is parochial for users to insist that Mac vendors maintain steadfast loyalty. First, such a view fails to recognize that technology moves in both directions. Most notable among the PC vendors coming to the Mac are Ashton-Tate with dBASE Mac and WordPerfect with WordPerfect for the Mac.

More importantly, Macintosh users — at least those who work in corporate environments — should understand that they gain when Mac programs are released in PC versions.

Blyth claims that one-third of Omnis 3 users work in departments with mixed PC and Mac environments. If that is representative of Macs used in business, it is reasonable to argue that adding PC connectivity to Mac programs is the most significant new function developers can provide.

The Mac market has a buzzword to describe the new function: interoperability.

Unlike the relatively crude connections between Macs and PCs available today, interoperability suggests a far more seamless link at the application level. The eventual goal is to have common file structures and to transparently share the same application among dissimilar machines on a common network.

With interoperability, companies will have no reason to require users to work on a certain kind of machine. The choice of hardware will become an individual matter.

Apple can only gain from such freedom of choice. Side-by-side comparisons of Mac and PC versions of programs will make the Macintosh look good.

IBM's promised Presentation Manager interface is certainly Mac-like, but it isn't as consistent or easy to use. At this point, it lacks the body of software that is available for the Macintosh.

Interoperability allows users to choose hardware and software on their merits, not based on labels or a sense of loyalty. Leaving aside concerns over the timing of upgrades, Mac users have nothing to fear and much to gain when Macintosh developers "defect." ■

LOUIS DUNN

Apple lagging behind in technical support

If you're a member of Apple's inner circle — Bill Gates, maybe, or Andy Hertzfeld — you'll get some pretty good technical support when you call Apple on the phone. You'll know what number to use and it won't be (408) 996-1010.

Good luck getting a solution if you're one of the "rest of us" 1 million-plus owners who have laid out thousands of dollars for Macintosh hardware and software.

Apple isn't the only culprit, either. Hardware and software vendors, even the ones who try, don't provide adequate customer support. You can't get through on the phone because it's always busy or never answered. If you do get through, you will be lucky to get a person and not a maze of electronic voices and questions routing you around some endless, internal phone network. If you get a person, he probably doesn't know enough to answer the question. If you get an answer, it's probably "go back to see your dealer (again)." More lost hours. More lost days. Trying to run a business? Good luck.

The standard support system in this industry isn't working. Support comes from user groups and consultants, not manufacturers. User groups and consultants are lucky to find contacts at Apple who can provide any help. Mostly, they just figure it out themselves. Consultants get paid to provide the support; user groups don't. Either way, the information is second-hand.

By contrast, when you call DEC or IBM about a problem with your minicomputer or mainframe, you get a national support center whose telephone support staff has a full database at their fingertips. The database holds all the problems other customers like you have encountered in the past, and about 80 percent of the time, it also holds the answer to your problem because someone else ran into it earlier and the manufacturer's technical staff developed a workaround or fix.

The support staff isn't overworked because they solve the problem only for the first customer who runs into it. After that, the telephone staff supports the other customers while the techies work on new problems. Problems are prioritized in the database so the worst ones get fixed first.

Apple, Claris and any other vendor who has more than a few customers could learn a few lessons from their bigger brothers' support systems. The productivity gains Macintosh owners have reaped from user friendliness are offset by the current support problems. Innovation shouldn't be confined to products and marketing. ■

To The Editor

ThunderScan inaccuracies

I wish to correct some inaccuracies published in two of your recent issues. One article in the Sept. 22 issue, "Scanners climb aboard gray-scale bandwagon," states that ThunderScan supports 256 gray scales. Actually, it supports 32. And Thunderware Inc. is not in Bedford, Mass., but in Orinda, Calif.

In the Sept. 8 Window On section focusing on scanners, you imply that ThunderScan is a low-resolution scanner by saying that it creates a low-resolution, 72-dpi image on the Mac screen. What you don't mention is that ThunderScan's output resolution is 300 dpi and five bits deep. The output quality of "ThunderScanned" images matches (and often exceeds) that of scanners in the $1,800 to $2,500 range.

Brian Smith, marketing manager
ThunderScan Inc., Orinda, Calif.

Defending GCC's Personal LaserPrinter

Recently you reviewed the General Computer Personal LaserPrinter. Though your article paints a rather negative picture of this printer, I would like to comment otherwise.

I have been using the PLP for the past few weeks, and while it is slower at printing some things, for others I have found it faster than the Apple LaserWriter. The print quality is excellent. I have encountered few compatibility problems, and this is the first version print driver software! General Computer has documented compatibility problems so the user isn't surprised.

Those applications that do have compatibility problems have generally not followed Apple's guidelines. In any case, General Computer provides a way to get around other programmers' errors through its Print Manager program. At $2,599 retail, the PLP is a wonderful value.

Also, in another issue you commented in a software comparison that all VT-100 emulators were slower than the actual terminals they emulate. In my experience, Smartcom II from Hayes (which you did not review) actually emulates the VT-100 faster than a DEC VT-220 terminal.

Alex Cohen
Green Lake, Wis.

FileMaker doesn't compete

The Sept. 8 article "Nashoba's decision to market FileMaker questioned" expressed doubts about Nashoba's ability to carry FileMaker in "competition" with HyperCard and 4th Dimension. That does a disservice to Nashoba and indicates a superficial knowledge of these three Macintosh products.

I am a specialist in FileMaker Plus and 4th Dimension, and I am coming up to speed with HyperCard. (I also program custom software.) Each of these three products fills specific needs. I do not view them as competing products.

The appropriate path for business users is not directly from FileMaker Plus to 4th Dimension as an alternative, competing product. If businesses reach the limits of FileMaker Plus, they should first seek vertical market developers who may have already invested the funds to create an application that fits their needs, or can be customized for them. They should expect to pay $500 to $5,000 for the application. Only if that search fails should they pursue a custom 4th Dimension application, and only if they are able to bear a $5,000 to $50,000 price tag.

HyperCard is a whole different ball game. Apple reportedly maintains it is system software and therefore shouldn't be cast as competing with existing applications. I agree in that I don't see HyperCard as competition for FileMaker Plus or 4th Dimension, nor do I see it as competition for any existing software.

S.C. Kim Hunter
Acropolis Software, Laguna Hills, Calif.

Send letters to MacWEEK, 525 Brannan St., San Francisco, Calif. 94107; or via MCI Mail to MacWEEK. Include your name, title, company name, address and phone number.

COMMUNICATING

John Edwards

I had a terrible dream the other night. I dreamed that Surgeon General C. Everett Koop and noted revisionist constitutional scholar Robert Bork had, quietly and without fuss, exchanged places. Worse yet, because of their hirsute similarities, no one could notice that the foul deed had taken place.

My dream had nothing to do with the Macintosh, of course, so I will end the discussion of it forthwith. But my nocturnal adventure brings to mind the story of another group of noted impostors: lawyers who pretend to represent citizens' interests.

Q: What do you call 10,000 lawyers on the ocean floor?

A: A good start.

My sentiments exactly. And in light of the effect that attorneys are having on the FCC's inclination to raise phone rates for information services by more than 300 percent, 20,000 lawyers might be a better starting point.

You have to realize that this whole business of raising on-line rates is a matter of government lawyers looking for some work to do. On an average day, a federally employed attorney has a lot of time on his hands.

For instance:

"Yo, Bill! Feel like filing some briefs today?"

"Nah, we did that yesterday, Frank."

"How about harassing a taxpayer, Bill?"

"Nah, that's boring, Frank."

"Then how about conniving some FCC commissioners into raising information service phone rates by 300 percent?"

"Hey, Frank! Now there's an idea!"

Last month, the Public Interest Computer Association (PICA) held a conference in Washington, D.C., to discuss the FCC's ill-advised proposal.

Michael Greelis, a representative at SpecialNet, a network for students with special-education needs and their teachers, called the FCC's idea "arbitrary and lawyer-induced." Bless you, Mr. Greelis. You are an observant man.

FCC commissioners are appointed to their posts for various reasons, most notable of which are substantial monetary contributions to the party in power and an enduring friendship with a leading political figure. There are dozens of reasons why a man or woman gets appointed to the FCC, but an ability to understand the intricacies of electronic communication isn't one of them.

The real power at the FCC lies in the hands of the lawyers. It's the lawyers who advise the commissioners how to vote and it's the lawyers who propose and compose the regulatory changes the commissioners vote on. In other words, lawyers — civil servants with no accountability to the public — are the ones pulling the strings at the FCC.

It's not a pretty picture, but even more distressing is the fact that FCC lawyers, in their zeal to find busy work, are not fully aware of the harm they are inflicting upon the struggling on-line industry and its users.

For example, FCC lawyer Ruth Milkman, architect of the on-line rate-hike proposal, recently admitted to Communications Daily that the FCC staff isn't entirely clear on the ramifications of its recommendation.

"We don't know what the impact of this proposal on individuals and small businesses will be," she said. "There's a great deal the FCC doesn't know about revenues, demand, usage and types of customers [and] hopes to obtain some information when comments are filed."

Sort of scary, no? Don't they check into these things in advance?

So what can we do about this awful situation? We can write letters and file petitions, if not to the FCC then to Congress. Although most congressmen are also lawyers, they are somewhat more responsive to the desires of the electorate than your average bureaucratic attorney.

As it turns out, the lawyers in Congress have infinitely more sway over FCC commissioners than the lawyers on the commission staff. That's the way things work in Washington. Some well-placed words from a congressman into a commissioner's ear can do wonders. A few soft mutterings about the president, party loyalty and upcoming reappointments, and the next thing you know the on-line rate proposal is history. ■

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With the Mac II and the current CAD/CAM/CAE software packages, the Mac is proving itself to be an exciting entry into the world of engineering. With the new release of HyperCard™, MultiFinder™ and soon UNIX, the engineer will find that the system of the future is available now. In this day-long workshop we will explore how all this hardware and software will serve to aid the engineer in advanced problem solving.

■ Publishing: Magazines, Newsletters & Newspapers

The Mac system has the power and flexibility to serve as the primary and in some cases only system in the total production of magazines, newspapers, newsletters, etc. In this session we will hear from the desktop publishing experts who have done it and do it with a Mac every day.

■ Graphic Design for Professionals

The next generation of technology has arrived in design power for the Mac. Color, big screens, faster processors and second generation software have put the Mac way out in front of the competition. In this session top designers and programmers will explore the present and look into the future.

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As all typesetters and advanced word processors know, as the job becomes more demanding and exacting, there are no shortcut solutions or "easy" programs and systems. In this day-long program, we will try to discover the nuggets of truth and the limits of the best programs, understand how to get the most out of them, and explore the hidden mysteries and idiosyncrasies of processing words on the Mac.

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From New York to L.A. the Mac has integrated into the law office environment. In the smaller firm it can handle virtually all computer needs and it has come to fill a vital role in the larger organization. This session will guide the legal practitioner, from top to bottom, through all relevant software packages and hardware designs. Your questions will be answered.

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Guide Envelope System ..... 99.
Palantir ... NCP
inTalk *(communication to emulation)*..... 99.
PBI Software ... NCP
HFS Locater *(DA organizer for HFS)*..... 26.
HD Backup *(supports MFS, HFS)*..... 29.
Personal Computer Peripherals ... NCP
HFS Backup ..... 32.
ProVUE Development ... NCP
OverVUE 2.0 *(power-packed database)* ... 149.
Satori ... NCP
BulkMailer 3.0 *(mailing lists)*..... 85.
BulkMailer Plus *(up to 90,000 names)*.... 199.
Legal Billing *(attorneys to accountants)*.... 385.
Legal Billing II *(full trust accounting)*..... 575.
Project Billing *(architects to engineers)* .... 445.
Silicon Beach Software ... NCP
Silicon Press *(printer utility, 512k)*..... 41.
SuperPaint *(advanced graphics program)*... 79.
SoftStyle ... NCP
Printworks *(print faster & in color)* ..... 49.
Software Discoveries ... NCP
Record Holder Plus *(data manager)*..... 45.
Software Ventures ... NCP
Microphone 1.1 *(includes Glue™)*..... 119.
Solutions, Inc. ... NCP
SmartScrap & The Clipper or Glue..... 41.
SuperGlue *(total graphic integration)*..... 59.
SuperMac Software ... NCP
SuperSpool 3.4 ..... 49.
Diskfit *(backup & restore utility)*..... 49.
Network Diskfit *(automatic backup)* ..... 259.
SuperLaserSpool ..... 99.
Sentinel *(encryption)* ..... 99.
Multi-User SuperLaserSpool..... 259.
Survivor Software ... NCP
MacMoney *(financial planner)* ..... 42.
Symmetry ... NCP
Acta 2.0 *(outline/writing desk accessory)*... $38.
PictureBase 1.2 *(clip art manager, 512k)*.... 59.
T/Maker ... NCP
ClickArt Personal Graphics, Effects, Publications, Letters Vol. 1 or 2, Holidays, Business Image ..... *each* 28.
Bombay, Plymouth, or Seville Laser font .... 46.
Write Now *(word processor)*..... 99.
THINK Technologies ... NCP
HFS Navigator 1.0 *(search for buried files)* .. 39.
Laserspeed *(Laserwriter utility)*..... 59.
Lightspeed Pascal *(includes debugger)*..... 85.
Lightspeed C *(top-rated C Compiler)*..... 99.
InBox Starter Kit *(CP)*..... 219.
TML Systems ... NCP
TML Pascal *(compiler, req. 512k)* ..... 68.
TrueBasic ... NCP
True BASIC *(fast, flexible & portable)*..... 59.
Algebra 1 or II, Trigonometry, 3D Graphics, Probability & MacFunction ..... *each* 35.
TrueSTAT *(statistics)* ..... 58.
Runtime *(create stand-alone applications)*... 59.
William & Macias ... NCP
myDiskLabeler *(design & print labels)*..... 24.
myDiskLabeler w/Color *(req. Imagewriter II)* .. 33.
myDiskLabeler w/Laserwriter option ..... 38.
Working Software ... NCP
Lookup *(90,000 word dictionary)* ..... 29.
Findswell *(locate documents fast)*..... 29.
Spellswell 2.0 *(spelling checker)*..... 42.

HARDWARE

Manufacturer's minimum limited warranty period is listed after each company name. Some products in their line may have longer warranty periods. Note: Some hardware items are available in either platinum or beige color. Please specify.

20 Meg SCSI Hard Drive *(120 days)*..... 569.
AST Research ... 6 months
AST Turboscan *(300 dpi scanner)*..... 1395.
AST 2000 *(20 Meg, 20 Meg tape)*..... 1395.
Curtis Manufacturing ... lifetime
Diamond *(6 outlets)*..... 29.
Emerald *(6 outlets; 6 ft cord)* ..... 36.
Sapphire *(3 outlets; EMI/RFI filtered)* ..... 47.
Ruby *(6 outlets; EMI/RFI filtered; 6 ft cord)* ... 55.
Dove Computer ... 90 days
MacSnap 548S *(512E to 2 Mb w/SCSI Port)* 469.
MacSnap 2S *(1 Mb to 2.5 Mb, expandable)* 489.
MacSnap 4S *(1 Mb to 4 Mb)* ..... 969.
Ergotron ... 1 year
Mouse Cleaner 360° ..... 15.
MacTilt or MacTilt SE ..... 74.
MacBuffer 512k ..... 329.
MacBuffer 1024k ..... 429.
Farallon Computing ... 1 year
PhoneNET PLUS *(DB-9 or DIN-8)* ..... 39.
Hayes ... 2 years
Smartcom II *(communications software)* .... 88.
Smartmodem 1200 ..... 299.
Smartmodem 2400 ..... 449.
Kensington ... 1 year
Disk Drive Cleaning Kit ..... 20.
Tilt/Swivel..... 22.
Universal Copy Stand..... 24.
Polarizing Filter or Surge Suppressor..... 34.
Apple Security Kit..... 35.
Printer Muffler *(80 column)* ..... 39.
System Saver Mac or Control Center ..... 64.
A-B Box *(for the Mac Plus)* ..... 64.
Turbo Mouse *(for the MacPlus, SE & II)* ..... 85.
Koala Technologies ... 90 days
MacVision *(digitizer)* ..... 175.
Kraft ... 1 year
3 Button Quickstick..... 39.
Migent ... 1 year
Pocket Modem *(ext. 1200 baud)*..... 169.
Mirror Technologies ... 1 year
Magnum 800 External Drive ..... 209.
Magnum Tape 20 Backup..... $899.
MagNet 30x *(w/cable)*..... 799.
MagNet 40x *(w/cable)*..... 1079.
MagNet 40/40 *(40 Meg, 40 Meg tape)* ... 2139.
Nutmeg Systems ... 1 year
Nutmeg FPD 15″ Monitor ..... 1395.
Nutmeg 19″ Monitor..... 1549.
Personal Computer Peripherals ... 2 years
MacBottom HD 21 Meg SCSI ..... 769.
MacBottom HD 32 Meg SCSI..... 899.
MacBottom HD 45 Meg SCSI ..... 1159.
Optional built-in modems available ..... call
SoftStyle ... 90 days
MacEnhancer *(for plotters to printers)* ..... 175.
Systems Control ... 2 years
MacGard *(surge protection)*..... 55.
Thunderware ... 90 days
ThunderScan 4.0 w/Power Port ..... 199.

DISKS

Sony 3½″ DS/DD Disks *(box of 10)* ..... 19.
Fuji 3½″ DS/DD Disks *(box of 10)* ..... 20.
MAXELL 3½″ DS/DD Disks *(box of 10)* .... 20.
Verbatim 3½″ DS/DD Disks *(box of 10)*... 20.
3M 3½″ DS/DD Disks *(box of 10)*..... 21.

ACCESSORIES

I/O Design
Imageware II *(Imagewriter II carry case)* .... 49.
Macinware Plus *(Mac Plus carry case)* ..... 69.
Macinware SE *(Mac SE carry case)* ..... 79.
Kalmar Designs
Teakwood Roll-top Case *(holds 45 disks)* ... 14.
Teakwood Roll-top Case *(holds 90 disks)* ... 21.
Moustrak
Moustrak Pad *(standard 7″ x 9″)* ..... 8.
Moustrak Pad *(large 9″ x 11″)*..... 9.
Sensible Softworks
Quality ″MacAttire″ nylon dust covers.... 7-17.
High Trek Mac Plus carry case ..... 59.
High Trek Mac SE & extd. kybd. carry case 69.

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Bonzer!

Megabytes and Modem in one!

MacBottom SCSI Drives can solve two of your system enhancement problems in one simple swoop. Not only do they pack 21, 32, or 45 megabytes (take your pick) in one very light *(but not lightweight)* package, but for a mere pittance you can get a Hayes compatible 1200 baud modem built right in. MacBottoms all arrive completely formatted. Here's what you have to do to get up and running. Pay close attention! 1. Take MacBottom out of box and place under Mac. 2. Plug it in. 3. Connect the cables. 4. Select the SCSI address. 5. Turn it on.

Of course, you can do some pretty fancy things with your new drive, especially with the software that comes with it: print spooling, floppy disk duplicator, a backup program and other utilities. Personal Computer Peripherals sells each one with unlimited technical support, a complete upgrade policy, and a 2-year warranty.

Available in either platinum or beige color. Please specify.

Personal Computer Peripherals ... 2 years

MacBottom HD 21 Meg SCSI **$769**
MacBottom HD 32 Meg SCSI **$899**
MacBottom HD 45 Meg SCSI **$1159**
Optional Built-in 1200 baud modem (available for each unit) ..... **$call**

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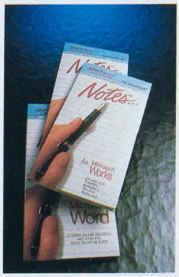
Reflex (the multi-file database with organizing, reporting, and analyzing capabilities) has been cranked up a few notches with some significant new features: macros, auto-save, a powerful GroupBY function that groups records as you need them, and the capability to calculate fields as you enter data. There are also new multiple-entry forms as well as default formats—you can even enter data for more than one database from within a single form. Reflex Plus is the perfect way to turn all that disorganized data into useful information.

Borland's Reflex Plus (not copy-protected, for 512, 512E, MacPlus, SE & II) **$165**

Behind the screens.

There's nothing more useful than having a real live expert nearby when you're using an applications program. Notes are the next best thing. They're available for Excel, Microsoft Works, Word, and other programs. Each comes with three different levels of *on-line* help—for beginners, intermediate users, and experts. You'll have advice, tips, short cuts, and documentation always available. And there's a rapid reference feature so you can quickly find the help you need.



Layered (copy-protected)
Notes for Excel, Microsoft Works, or Word ..... each **$42**

$3 Overnight.

Do you know that practically all of the people we ship to receive their packages *the next day?* For only $3 per order. With our new Fly-by-Night[SM] service, all you need to do is (1) phone in your non-COD order by 8 PM EST, (2) relax, watch TV or go bowling, (3) accept delivery of your order the next day. Because while you were asleep, your order was picked, packed, trucked, planed, sorted, and then some. To make sure you'd have it when you need it—in most cases, by noon.

The *only* exception would be in the event of extremely unnatural circumstances (i.e. massive computer failures, Marlow-wide power blackouts, etc.). Airborne Express handles the majority of our shipments and, in all but a few cases, will deliver the following day. Orders for delivery within UPS Ground Zone 1 will ship UPS and arrive the next day.

It's (safely) in the bag.

The Macinware SE bag is the ultimate luxury luggage for your Mac SE. It has padded pockets for mouse, cords, keyboard, and a special compartment for a disk drive, modem, or accessories. It's better padded than a left tackle and built just as solidly. So you can safely and comfortably lug your Mac SE across field, hills and valley. (Or, just to your car in the parking lot). It's available in navy blue or platinum grey.

I/O Design
Macinware SE Carry Case **$79**

Modem clone.

It doesn't look like a modem. It looks like software— which it is. But ComServe can combine with a single modem to give an entire network telecommunications capability. You eliminate bundles of wire and bushels of expense, as everyone in your AppleTalk network can share a single modem.

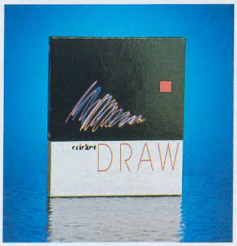
Infosphere's ComServe 1.0
(not copy-protected, for 512, 512E, MacPlus, XL, SE & II) **$129**

True specials.

That big, better, and best BASIC, True BASIC, is particularly well-loved for its portability to other computers and wide range of control libraries that greatly simplify programming. This month we're offering a special on the package itself along with the 3D Library or Algebra I.

True BASIC (not copy-protected, for 512, 512E, MacPlus, SE & II) **$59**
3D Library or Algebra I (with purchase of above) **$25**

Artistic freedom.



Cricket Draw takes its graphics cue from the LaserWriter, not the Mac's display resolution. That means you can use a full 300 dots per inch when printing your drawings instead of a paltry 72. Big difference. Awesome difference. You can shade with a 0% to 100% gray scale, create shadows, logarithmic shading, starburst, grates, smooth curves, and just about anything else your left brain can dream up and convince your right brain it's worth doing. The output will blow both away.

(Figuratively speaking, of course).

Cricket Software (not copy-protected)
Cricket Draw (for 512E, Plus, SE & II) **$175**

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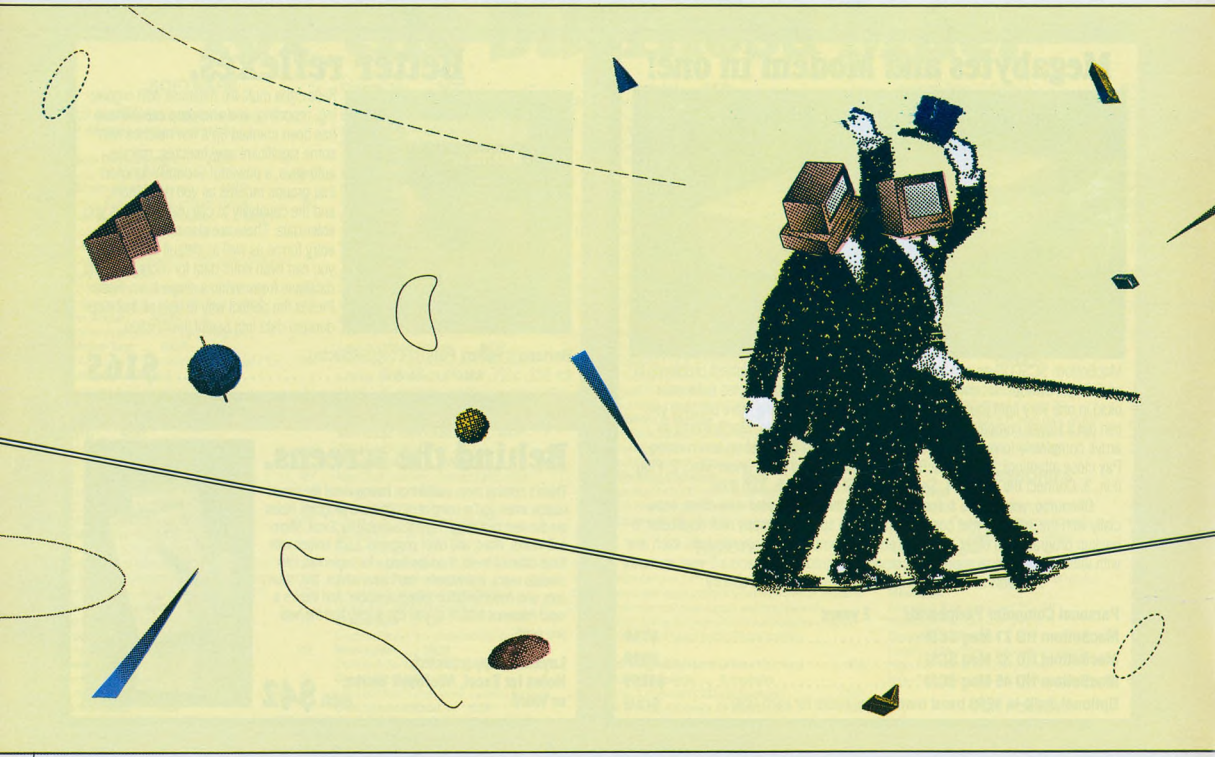


BY STEVE MICHEL
Special to MacWEEK

When first introduced, the Macintosh entered a world full of PCs. To create an unprecedented machine, Apple sacrificed compatibility with mainstream computing — the IBM PC and its clones. But many customers needed some sort of compatibility. Either they needed to run a specialized program available only for the PC, or they had a considerable amount of data already entered into PC programs.

For the first few years of the Mac's life, little was done about this. To transfer data from a Mac to a PC, you could use a modem or connect the two machines directly via their serial ports and transfer text, but only straight, unformatted text. Both methods were clumsy and not what people wanted to do on a daily basis. Integration between the two machines required new developments.

Aside from modem communications, three methods bring together the Mac and PC—one will probably work for you. According to James Kalin of the Microcomputer Publishing Group, a San Diego-based Macintosh consulting firm, you should plan ahead and "visualize whether you need simple file transfer or whether you need to run MS-DOS applications." Deciding on your goals first is the key to successfully implementing some coexistence in your operation, he said.

Compatibility drives

A compatibility drive is an external floppy disk that can read files created on a PC. Usually these are 5.25-inch disk drives that attach to the Mac via its SCSI interface, although some 3.5-inch drives are now appearing. Dayna Communications of Salt Lake City, which developed MacCharlie, adding an entire MS-DOS computer to the Mac, manufactures 3.5-inch drives. Dayna's FT-100 external disk drives accept data from IBM PC/XT format disks and from 1.2-Mbyte IBM PC/AT format disks. Optional drives for the product are compatible with IBM's 3.5-inch disk drives.

Apple has the Mac SE Bus PC Drive Card and the Mac II PC Drive Card that are controller boards for standard MS-DOS disk drives. The cards work with the company's PC Drive 5.25, which will read and write both low- and high-density disks.

Apple also is reportedly looking at altering the standard drive controller chip on the Mac — the IWM (Integrated Woz Machine) — to permit it to read and write 3.5-inch MS-DOS disks directly. This will obviate to some extent the need for these compatibility drives, especially as the PC world adopts the smaller disk format as a standard.

"If all the user needs is occasional file transfer, then a compatibility drive can work quite well," said Kalin, who has worked with several of them. With these drives, users can implement "sneakernet" — PC users who want to transfer data to the Mac first copy it to a floppy disk and then "walk" it over to a Mac user. Compatibility drives work best in small shops with relatively few machines where data does not need to be transferred on a real-time basis.

Coprocessor boards

When Apple introduced the Mac SE and the Mac II, AST Research Inc. of Irvine, Calif., presented two boards, the Mac86 for the SE and the Mac286 for the II, that allow MS-DOS programs to be run from the Mac environment. Essentially, these boards add to the Mac the same processors available in the IBM PC/XT and AT computers. The Mac86 board utilizes the Intel 8086 microprocessor, and AST claims that it approaches a PC/XT in operation and speed. The Mac II version, with a faster Intel 80286 chip, approximates an AT's speed. If you have Macs and no PCs and need to run certain programs that don't have Mac counterparts, these cards are a good solution. Both cards come with built-in disk-drive controllers, so all you need is a compatible drive to run MS-DOS.

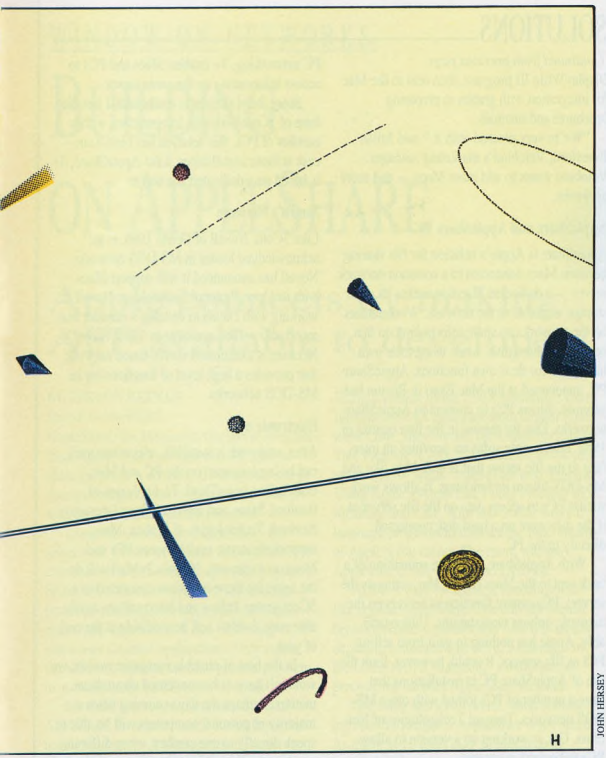
Kalin envisages tools for improving Mac and PC integration with compatibility boards. Beyond running PC applications on a Mac, he wants closer integration of the two environments. "MultiFinder and macro applications such as Tempo (from Affinity Microsystems of Boulder, Colo.) should allow us to achieve a much closer level of integration between the two environments," he said. As the Mac operating system matures, perhaps some sort of interprocess communication between the two environments will allow active exchange of data even as different programs are working with it.

For large operations with both PCs and Macs, a network is probably the way to go. Kalin, who has installed large mixed networks, said that this opens up a world of different directions, including, but not limited to, electronic mail. Networks allow the sharing of data on a real-time basis. Newer generations of software could allow PC and Mac users to access the same data at the same time. To accommodate both the PC and the Mac, networking solutions are proliferating.

TOPS

TOPS, A Sun Microsystems Co. of Berkeley, Calif., (formerly Centram Systems West) offers a second solution: the "Transcendental Operating System." As the name indicates, TOPS transcends the operating systems of the PC and Mac (as well as UNIX) and connects the systems together in a network. Properly installed and maintained, TOPS is close to being a "transparent" operating system. Not only are its functions nearly transparent to the user, but it also handles tricky items such as disk and file formats transparently to the operating systems running the software.

TOPS was the first solution available for connecting Macs and PCs together in a network, and it continues to be a best seller. In TOPS vernacular, any computer can "publish" its hard disk — make it available to others on



JOHN HERSEY

the network. Those who want to use a published hard disk "mount" it to their local machine. After it has been mounted, the networked hard disk appears on the user's screen, becoming part of the user's programs as if it were directly connected to his machine. To borrow and misuse a term from the MIS environment, this is "peer-to-peer" communication:

> (Early) methods were clumsy and not what people wanted to do on a day-to-day basis. Integration between the two machines required new developments.

all machines are equal on the network. Mike Rogers, head of technical support at TOPS, calls it a "democratic" network, as opposed to the "hierarchical" style of networks that require a dedicated network file server.

With TOPS, a PC disk published on the network and mounted on the Mac appears as a Mac disk connected directly to the Mac. From the PC, Mac disks appear as PC disks.

TOPS operates well at both large and small installations. At Chevron USA's refinery in Richmond, Calif., TOPS directly connects more than 30 Macs and PCs. Using modems and bridges (devices that allow multiple networks to be joined together), more machines from other offices can share data.

"At the time we put in the network, TOPS was the only product that allowed us to do what we wanted," said Bill Silva, lead analyst at the refinery.

Silva said he liked the ease of teaching TOPS to network users. "TOPS can be learned in five minutes. I showed it to one of our IBM-oriented people here. Within five minutes, he had transferred a file between two PCs; 'Impressive, impressive ' was his comment," Silva said.

The Chevron network uses a mix of software. The Macs have been standardized with Microsoft's Word and Excel, and Apple's MacDraw, which is supplied to all users. Other programs include Cricket Graph from Cricket Software of Malvern, Pa.; SuperPaint from Silicon Beach Software of San Diego; and FileMaker Plus, published by Nashoba Systems of Concord, Mass. The network grows constantly, taking on more machines and joining more networks.

At the other end of the spectrum, Velobind of Santa Clara, Calif., has installed a simple TOPS network in its marketing department to connect one PC to a Mac. The department's data was created on a number of machines in Lotus 1-2-3 worksheets. For creating graphics or integrating worksheets into desktop publishing documents, data is transferred to Excel on the Mac. Word processing is done with IBM's

See SOLUTIONS, Page 22

Network software takes out the kinks

Once you transfer the data to a PC from a Macintosh or vice versa, there is the problem of using that data on the foreign machine.

Many Macintosh programs can directly. read data files created by certain PC programs Microsoft Word 3.01 on the Mac will read Microsoft Word PC files directly, and Microsoft Excel will read Lotus 1-2-3 worksheets with little loss of information as well as allow worksheets to be saved in 1-2-3's "WKS" format. As new versions of software and new programs appear, more and more of them can share data between the two environments.

Conversion utilities are available to handle most of the programs that can't directly read files created on an alien machine. MacLink Plus from DataViz Inc. of Norwalk, Conn., was one of the first such programs available. It has great flexibility in its modes of operation and in the types of files it can convert. MacLink Plus will serve as terminal software for Macs and PCs connected via a serial port, thus handling all the communications problems. In this mode, MacLink Plus can convert files "on the fly" as part of its transfer process, or it can convert files already transferred from one disk format to the other.

MacLink Plus converts information to and from the formats of programs such as Ashton-Tate's dBase III and MultiMate, 1-2-3, Excel, MacWrite and Micropro International Corp.'s WordStar. It also can handle intermediary formats such as DIF, SYLK, DCA and tab-delimited text. Using one or more of these formats usually allows the transferring of information that is not handled directly by one of the product-specific translators.

Since mid-July, TOPS, A Sun Microsystems Co. has been including a specially modified version of MacLink Plus, called TOPS Translator, with its networking software, which makes translation even easier. If you have TOPS, but have not received this upgrade, it is available by calling TOPS at (415) 549-5995. The upgrade also includes a printer spooler and the latest version of the TOPS software.

Apple has announced its own program, Apple File Exchange, which will handle many of the same conversions. According to Apple, this program will be included with all Macs, the SE-Bus PC Drive Card and the Macintosh II PC Drive Card. (See main article.)

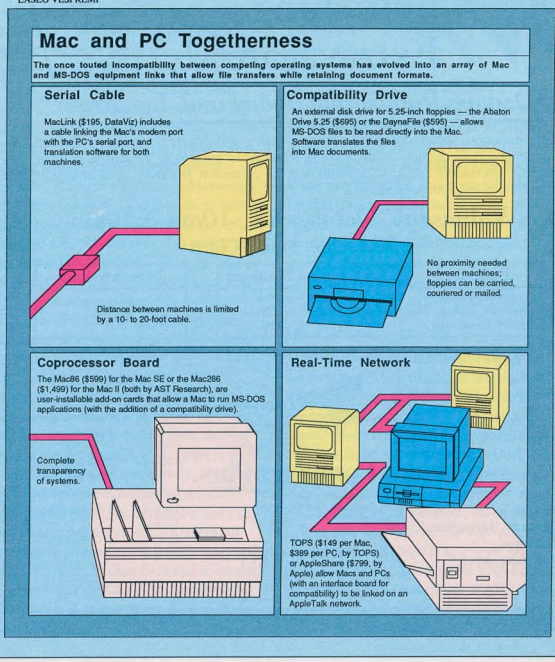
Apple File Exchange supports the addition of new "drivers" — translators that facilitate the translation of information to and from additional programs.

This extensibility means that as new programs become available for both machines, developers will be able to write these translators for their programs without having to know the file formats of all the other programs to which users might want to transfer data. This step alone will broaden the scope of file transferring considerably.

Graphics conversion between the two machines is a little more difficult. Both of the

See NETWORK, Page 23

LASLO VESPREMI


Mac and PC Togetherness
The once touted incompatibility between competing operating systems has evolved into an array of Mac and MS-DOS equipment links that allow file transfers while retaining document formats.
Serial Cable
MacLink ($195, DataViz) includes a cable linking the Mac's modem port with the PC's serial port, and translation software for both machines.
Distance between machines is limited by a 10- to 20-foot cable.
Compatibility Drive
An external disk drive for 5.25-inch floppies — the Abaton Drive 5.25 ($695) or the DaynaFile ($595) — allows MS-DOS files to be read directly into the Mac. Software translates the files into Mac documents.
No proximity needed between machines; floppies can be carried, couriered or mailed.
Coprocessor Board
The Mac86 ($599) for the Mac SE or the Mac286 ($1,499) for the Mac II (both by AST Research), are user-installable add-on cards that allow a Mac to run MS-DOS applications (with the addition of a compatibility drive).
Complete transparency of systems.
Real-Time Network
TOPS ($149 per Mac, $389 per PC, by TOPS) or AppleShare ($799, by Apple) allow Macs and PCs (with an interface board for compatibility) to be linked on an AppleTalk network.

NETWORK

Continued from previous page

leading PC desktop-publishing programs — Aldus' PageMaker and Xerox's Ventura Publisher — can import MacPaint files with varying accuracy. Ventura Publisher always imports the entire MacPaint page; you must scale and crop the image to get it to come out correctly.

Few Macintosh products, however, will allow you to manipulate graphics images created on a PC. The Graphics Link from PC Quik-Art Inc. of Athens, Ga., allows you to convert bit-mapped graphics to and from the PC and the Mac.

On the PC,the Graphics Link supports such formats as Microsoft's Windows Paint and Digital Research's GEM and Dr. Halo, as well as the emerging Tag Image File Format (TIFF), co-developed by Aldus and Microsoft. — *By Steve Michel*

SOLUTIONS

Continued from previous page

DisplayWrite III program, then sent to the Mac for integration with graphs in preparing brochures and manuals.

"We're very pleased with it," said Julian Beresford, Velobind's marketing manager. Velobind wants to add more Macs — and more networks.

AppleShare and AppleShare PC

AppleShare is Apple's solution for file sharing between Macs connected to a common network server — a dedicated Mac that makes its mass storage available to the network. Workstations on the network can share information on that computer's hard disk, while using their own hard disks for their own functions. AppleShare PC, announced at the Mac Expo in Boston last summer, allows PCs to connect to AppleShare networks. Due for release in the first quarter of 1988, this flexible software provides an interface to the file server that is both Mac-like and MS-DOS-like in its functions. It allows workstation PCs to access data on the file server as if the data were on a hard disk connected directly to the PC.

With AppleShare, PCs take something of a back seat to the Macs (to the Mac acting as the server). PCs cannot function as servers on the network, only as workstations. Understandably, Apple has nothing to gain from selling PCs as file servers. It could, however, limit the use of AppleShare PC in installations that have a number of PCs joined with other MS-DOS networks. Tangent Technologies of Norcross, Ga., is working on a version to allow PCs to be used as servers.

A distinguishing feature of AppleShare is its rich set of tools for protecting data. Any folder can be assigned "access privileges" to limit others' use of that folder. They may be able to see the files in the folder, see folders in the folder or make changes to files in the folder. AppleShare PC brings these same functions to the PC workstation on the network.

3+ for the Mac

From 3Com of Santa Clara, Calif., a leader in PC networking, 3+ enables Macs and PCs to access information on the same server.

Since there already is a substantial installed base of 3Com networks in operations with a number of PCs, this solution has been a success at those installations. Like AppleShare, 3+ is based on a dedicated file server.

Novell's Netware

Like 3Com, Novell of Orem, Utah, is an acknowledged leader in MS-DOS networks. Novell has announced it will support Macs with its Open Protocol Technology. Novell is working with Dayna to develop a product that reportedly will be available in 1988. Novell's Netware is a dedicated server-based network that provides a high level of functionality in MS-DOS networks.

Electronic mail

After a network is installed, electronic mail can be implemented on the PC and Mac. Both InBox from Think Technologies of Bedford, Mass. and Intermail from Interactive Network Technologies of Waban, Mass., support electronic mail between PCs and Macs on a network. 3Com's 3+Mail will do the same for those machines connected to a 3Com server. InBox and Intermail are available now; 3+Mail will be available at the end of year.

In the best of possible computer worlds, we wouldn't have to be concerned about these matters. Perhaps the day is coming when a majority of personal computers will be able to speak directly to one another, when different machines will be able to interchange disks and communicate easily on networks.

Perhaps the day is coming when data transfer between programs can be done without a second thought.

Whether this vision accurately predicts the future, we'll have to wait and see. It is accurate to say that communication between different machines is getting easier and easier. Mac users can come in from the cold; they no longer need to feel completely left out in an IBM-dominated world. ■

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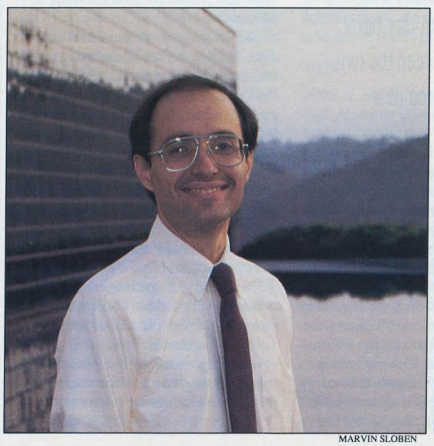


MARVIN SLOBEN

"MultiFinder and macro applications such as Tempo should allow us to achieve a much closer level of integration."

JAMES KALIN, Microcomputer Publishing Group

WINDOW ON NETWORKS

BUILDING ON APPLESHARE

Apple connects by making AFP available to developers

COURTESY APPLE COMPUTER INC.

BY VERNON KEENAN
Special to MacWEEK

AppleShare, the Macintosh file server available from Apple, is an excellent way for users to share files over a network. Its major advantage over its competitors is a seamless integration with the Macintosh operating system.

Using the Chooser Desk Accessory to select your file server volume is a logical extension of the Chooser's capability. AppleShare also offers a record-level file-locking protocol, enabling developers such as Cupertino, Calif.-based ACIUS Inc. to develop multi-user database applications. Only Apple could have enhanced the Mac operating system to accommodate the file server it created.

But there is a very unfortunate aspect of AppleShare for a lot of users: It requires a dedicated Macintosh. A Mac used as a file server is a lonely computer. The Mac was created primarily to interact with people, not other computers. Often, especially when there is a Mac shortage in an office, users will curse the file server, wishing that somehow they could use the Mac for what it was really designed for.

Other deficiencies in the initial implementation of AppleShare were limitations in the throughput of the Mac workstation and the speed of the standard AppleTalk network. These factors led some to dub the file server "AppleSnail." Furthermore, there have been recent reports that restoring a backup of an AppleShare server volume causes the file protection information to be lost.

Using the Protocol

All of these things eventually will be forgotten because Apple redeemed itself when it published the AppleTalk Filing Protocol and made it available to developers. Apple has essentially encouraged vendors to produce AppleShare-compatible file servers. Since then, several versions of AppleShare have been created that run on computers considerably more potent than a Mac. Another development has been the implementation of AppleTalk over Ethernet. Most Ethernet networks operate at a theoretical maximum speed of 10 Mbits per second, compared with 230 Kbits per second for Macs connected to a regular AppleTalk network.

The first widespread implementation of AppleShare on a computer other than the Mac was accomplished by Charlie Kim and Bill Schilit of Columbia University in New York. Using a version of the UNIX operating system running on VAX hardware from Digital Equipment Corp., they created the Columbia AppleTalk Package (CAP). CAP enables UNIX programmers to "speak" AppleTalk over Ethernet. Using Apple's AppleTalk Filing Protocol specifications and CAP, Kim and Schilit wrote C-language programs to recreate the functionality of Apple's file server. The result was the AppleTalk UNIX File Server (AUFS).

AUFS is easy for users; it functions just like regular AppleShare. The only difference between Apple's product and AUFS is an icon depicting a mischievous devil, a reference to the UNIX AUFS "daemon," a multitasking process that handles AppleShare requests.

One thing users will notice when comparing AUFS to Apple's AppleShare is the speed. As many as 10 users may simultaneously access the file server running on a VAX 11/785 that can process 2 million instructions per second (MIPS) without significant degradation in the server performance. Performance can be boosted even more when running on a faster VAX like the 12-MIPS VAX 8800. In contrast, a Mac SE can slow to a crawl when three people access it at the same time. Speed also can be boosted by providing a direct connection to the Ethernet network, bypassing the speed limitations of AppleTalk's transmission.

CAP also gives programmers tools to create other AppleTalk utilities, such as print spoolers and specialized communications protocols. The CAP programmers have, for example, created a UNIX-based print spooler that appears in the Chooser Desk Accessory. Users simply select the spooler instead of the LaserWriter and their printer output is spooled to the VAX, which then handles the direct LaserWriter connection. Another application for the CAP-based spooler is to use a text-to-PostScript filter, enabling VAX users to print text files directly from the UNIX machine to a LaserWriter — without using a Mac. PostScript output generated from applications on the VAX, and even from an IBM PC connected to the VAX via Ethernet, can print on a LaserWriter via this spooler.

The best thing about AUFS and CAP is their price: free. Columbia has published all the source code in accessible networks. AUFS users, most of whom come from the university and research communities, gather on USENET, the worldwide UNIX conferencing system. Beware of using AUFS, though, because there are some rather severe restrictions on it. The package was developed primarily for academic users, who usually have access to enough UNIX wizards to handle any problems that may turn up. Commercial users can download and implement the package, but Columbia cannot help them with bugs or other problems. Information on where to download CAP and AUFS is available on USENET.

How it works

It is a good thing that users don't have to understand how AUFS works because it is complicated. People who are responsible for putting networks together, however, must understand its implications. A major difficulty in knowing if AUFS or any other VAX-based file server is appropriate for you is learning the alphabet soup of Ethernet acronyms and abbreviations and what they do. (See related story.)

One big advantage of AUFS and some of the other AppleShare file servers is compatibility with the Transmission Control Protocol/ Internet Protocol (TCP/IP) Ethernet standard defined by the U.S. Department of Defense. TCP/IP is the common denominator of Ethernet protocols. Just about every computer, big or small, has a hardware and software solution that will allow it to operate as a node on a TCP/IP network. This solution is very important to organizations that run many types of hardware and operating systems. Currently, it is the only network that glues together UNIX, VAX/VMS, MS-DOS, Xerox and Macintosh workstations.

The Macintosh gains access to TCP/IP through the AppleTalk/Ethernet bridge hardware made by Kinetics Inc. of Walnut Creek, Calif. Kinetics makes three bridges: the FastPath, a box that connects to the AppleTalk network; EtherSC, a box that connects to a Mac's SCSI port; and the EtherPort SE, an add-on card that fits to the Mac SE bus. But just like any other computing device, a Kinetics box needs to be programmed to be fully functional. Bill Croft of the Medical Exchange at Stanford University in Palo Alto, Calif., has developed the Kinetics Internet Protocol (KIP). KIP is software that is uploaded to the Kinetics hardware, enabling the Kinetics box to package AppleTalk packets into a TCP/IP envelope suitable for transmission over Ethernet. Other Kinetics boxes or a VAX running CAP can open the TCP/IP envelope to get at the AppleTalk packet.

The use of CAP and KIP to enable Macs to talk over Ethernet is a welcome solution for system managers in a mixed vendor environment. Working with TCP/IP instead of inventing yet another Ethernet transmission protocol allows Mac users access to functions inherent in TCP/IP, like gateway routing and virtual terminals on UNIX and VMS.

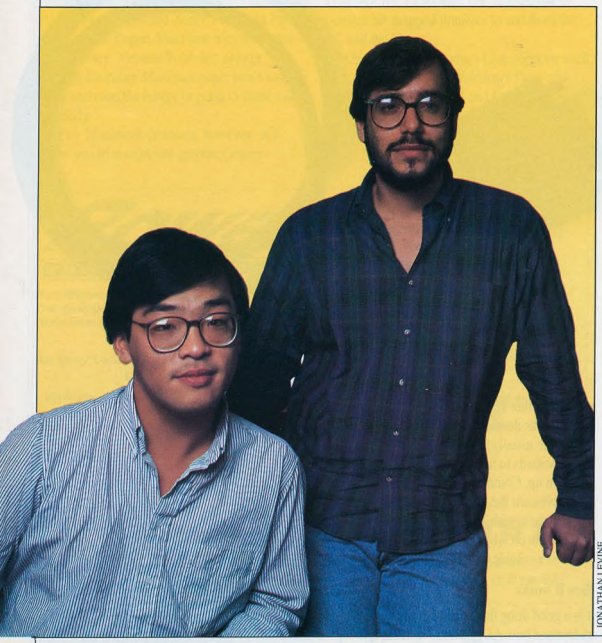
Other solutions

Although Columbia doesn't sell or support CAP and AUFS, one vendor has announced it will be supporting AppleShare file servers over Ethernet networks using TCP/IP. Pacer Software of Westborough, Mass., announced at the Mac Expo in Boston in August that it will make such a file server available near the end of this year. Unlike earlier Pacer file server products, the VMS AppleShare version will be fully transparent. It will use the VMS hierarchical directory structure to map to the Mac file system. Simply activating the VMS Copy command makes a file available to a Mac user.

There are several other solutions for putting

Continued on next page

Charlie Kim and Bill Schilit of Columbia University created the first implementation of AppleShare over computers other than Macintoshes. Their Columbia AppleTalk Package enables UNIX programmers to "speak" over Ethernet.



JONATHAN LEVINE

Continued from previous page

a file server on a VAX, but they don't offer the integration and file-service functions of AppleShare. Alisa Systems of Pasadena, Calif., offers a VMS-based file server that uses a unique set of Ethernet protocols to communicate over the Ethernet and through the Kinetics box. TOPS Inc. (formerly Centram Systems West) of Berkeley, Calif., supports its TOPS network on a UNIX host.

The future

Supporting AppleShare is clearly a good trend in mainframe-based file servers for the Mac. It was created by Apple and integrates very well with the Mac operating system. Columbia, in collaboration with the energetic community of UNIX developers, has delivered an excellent example of how AppleShare can be done right.

Using a VAX or other UNIX machine for a file server makes much more sense than using a Mac. UNIX machines are designed for heavy disk use and handle many concurrent tasks quite well; the Mac is only beginning to support such activities. The larger machines need not be dedicated to being a file server. Standard procedures for backup and recovery of files avoid the awkward procedures for backing up Mac-based AppleShare volumes. Both the VMS and UNIX operating systems can automatically accommodate the file protection information, not being prone to lose that data when a backup file is restored to the server.

Now it's up to commercial developers to refine the Columbia example and make it a plug-in solution for the corporate user. ■

Model for network communication of dissimilar computers

A seven-layer model of network communications was defined by the Geneva, Switzerland-based International Standards Organization (ISO) to facilitate the communications of dissimilar computers over a network. Understanding the layers helps to conceptualize how these different computers can communicate.

Layer 1 — Physical layer: The actual physical and electrical nature of the medium, such as a coaxial cable for Ethernet or a twisted-pair for Farallon Computing's PhoneNet.

Layer 2 — Data link layer: The hardware that connects two computers to the physical layer. For the Mac, this is the RS-422 printer port where the AppleTalk or PhoneNet connecter is plugged in. For a Digital Equipment Corp. VAX, this would be the Ethernet adapter card. Hardware from Kinetics Inc. of Walnut Creek, Calif., has two data link devices, thus providing the bridging capabilities between machines.

Layer 3 — Network layer: The software that handles the routing of data packets. The Kinetics bridge implements this layer by routing network packets from Ethernet to the AppleTalk subnet that it serves.

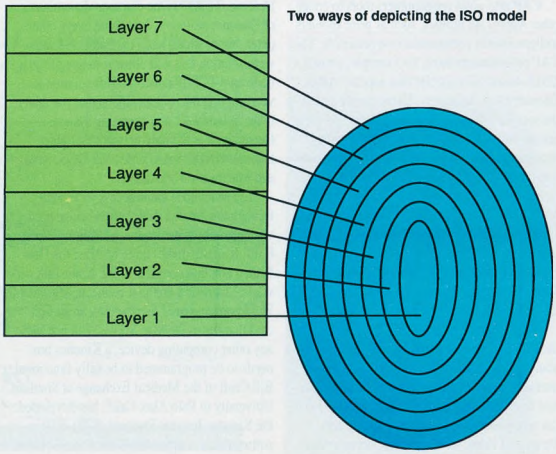
Layer 4 — Transport layer: In the Mac world, this is the software that packages data into packets for transport over Ethernet, either in the TCP/IP-compatible routing packets or the AppleTalk Ethernet packets.

Layer 5 — Session layer: This is the first layer that most network programmers need to be aware of. It is the driver software that handles support for a file server or virtual terminal session.

Layer 6 — Presentation layer: The AppleShare file server itself is an example of a presentation — the way the user sees a network application from a conceptual level.

Layer 7 — Applications layer: This final layer is what users actually see on their screen. For AppleShare, it is the Finder translating a user's mouse commands and key strokes into actions on the network. — *By Vernon Keenan*

Two ways of depicting the ISO model



Networking lingo

Networking may facilitate communication between different machines, but the vocabulary of networking can hinder communication between those who know all about networking and those who don't.

To alleviate this problem, here's some of the terms that tend to drive us all crazy when network geeks whip them around.

AppleTalk — Apple's networking standard defining how data is transmitted at the network layer in the International Standards Organization's Open System Interconnect (OSI) model. Sometimes there is confusion between an AppleTalk wire and the networking standard itself. AppleTalk refers only to the logical definition of the network because AppleTalk can work over wiring other than Apple's AppleTalk personal network wiring.

Ethernet — A networking standard invented by Xerox Corp. and widely used by computer manufacturers. It defines sets of electrical and optical standards, basic data packet transmission methods and collision detection.

PhoneNet — The physical wiring and presentation system developed by Farallon Computing of Berkeley, Calif. It is a simple twisted-pair wire system that uses standard telephone wiring equipment. It is physically compatible with the AppleTalk network scheme.

EtherTalk — Apple's version of AppleTalk that runs over Ethernet. It is different from other Ethernet protocols and links Mac II computers via the EtherTalk adapter card.

AppleShare — A file server created by Apple. AppleShare works under AppleTalk, where a workstation can issue AppleTalk commands to ask a file server for access to a file.

AFP — AppleTalk Filing Protocol. The standards under which file servers operate and satisfy requests from workstations. AppleShare is an implementation of AFP.

TOPS — The file server solution offered by TOPS of Berkeley, Calif. TOPS is different from AppleShare, with less sophisticated file protection and privileges, but it does not require a dedicated Mac. TOPS stands for Transcendental Operating System.

Gateway — A hardware device responsible for transmitting data between portions of the same network or separate networks. A gateway device can join different networking media.

TCP/IP — Transmission Control Protocol/Internet Protocol. A standard set of communication protocols that operate over Ethernet and other network media. TCP/IP is responsible for routing data between hosts through the use of routers and gateways.

DDP — Datagram Delivery Protocol. An encapsulation method used to route AppleTalk packets through an Ethernet network.

Virtual terminal — A method by which a workstation on a network can perform a terminal session with another computer. For example, logging on to a DEC VAX/VMS computer from a Macintosh over an AppleTalk network.

Telnet — The virtual terminal protocol used under TCP/IP. — *By Vernon Keenan*

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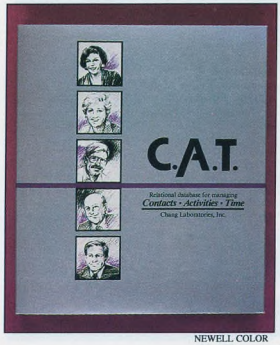


NEWELL COLOR

BY BILL CATCHINGS
and MARK L. VAN NAME
Special to MacWEEK

Managers, sales representatives, brokers, lawyers, consultants, small-business operators — many professionals earn their living by building and maintaining relationships with clients. Until now, the Mac has lacked software designed specifically to assist with such tasks. Calendars and phone lists, helpful as they are for storing simple information, leave most of the work of planning and tracking your professional contacts to you.

Chang Laboratories' C.A.T. (Contacts, Activities, Time) is an innovative program designed to provide more sophisticated assistance. It is a relational database system, but one tailored to the management of clients or contacts. With it, you can keep track of your contacts, record your interactions with them, schedule follow-up phone calls or letters and even generate personalized form letters.

C.A.T. is not as easy to use as one might hope a dedicated program would be. The number of windows and options it offers can be overwhelming. Its terminology is confusing and some of its procedures are more cumbersome than they need to be. And as a specialized application, it lacks the flexibility of high-end database managers like 4th Dimension, dBASE Mac, or Omnis 3 Plus.

But if you are willing to invest some time and effort, you'll probably be able to learn C.A.T.'s features and procedures faster than you could learn a database programming language. And you'll end up with a client-management system that will save you time and trouble — and might even win you some sales that would have otherwise gotten away

To set up a C.A.T. database, you enter information about the three major areas in its name: your contacts, the activities that you have already done or need to schedule with those contacts, and the times at which you should do them.

Contact records are the core of the database. They contain information about each person you deal with, including name, phone number, nickname and title, along with as many as 16 pages of notes. In another type of record, Accounts, you store information about the organizations with which your clients are associated. Double-clicking on an account name brings up a list of all your contacts at that company or agency.

The Account records are part of C.A.T.'s relational structure, so you tie Contact records to an Account record and thereby avoid having to re-enter all the corporate data each time you make a new Contact. If a company moves or changes its name, you have to make a change in only one place, and all your Contact records are automatically updated.

> You'll end up with a client-management system that will save you time and trouble — and might even win you some sales.

Lookup tables

Sometimes a complete list of Accounts or the Contacts within an Account is much more than you need. C.A.T. allows you to group your entries by creating "lookup tables" with customized codes to distinguish different kinds of accounts or contacts. You could, for instance, set up tables that would allow you to identify contacts by job title, department, political orientation, favorite baseball team or any other criterion. Accounts might be grouped by industry, total assets or volume of business.

Using these custom codes or standard fields, like address or phone information, you can select a particular subset (called a "view" in C.A.T. terminology) of Accounts. The selection criterion can be simple, such as the name of a state for which you want all Accounts, or much more complex, such as all financial service companies within 50 miles of Pittsburgh with an annual volume exceeding $5 million and a staff of 25 to 50 employees. You can leave your Accounts grouped into as many as 14 temporary or permanent Views, and on a Mac II, you can assign any one of seven colors to such a view.

Contacts are only half the problem. The other half is the Activites — any task that has occurred or might need to be scheduled. While the details of every client relationship are always somewhat different, most people follow a few basic strategies with all of their clients. A new Contact might get a first visit, a follow-up letter and phone call a week later, and then another call a week after that.

C.A.T. tactics

With C.A.T., you can group a series of common Activities into a "Tactic," then associate the Tactic with a Contact, so that C.A.T. can prompt you automatically when you should take each step. When your Tactics include letter writing, you can enter boilerplate just once, then press just a few "Hot Keys" to retrieve the data you need to personalize and address the letters from your Account and Contact records. (You'll have to spend some time with the manual, though, before you're likely to remember Hot Keys like Option-l for mail stop and Shift-Option-equal sign for street address. The key assignments appear to be totally arbitrary.)

The Time aspect of C.A.T. is controlled by a calendar. It maintains a list of all past and scheduled events — not only those Activities that you planned individually, but also those that were initiated by your preset Tactics.

C.A.T. produces several report formats — dossiers (complete histories of selected accounts), mailing labels, notes and memos (as well as letters), calendar printouts and customizable account and event lists. Unlike some database report generators, C.A.T.'s can print out any or all of the information you have entered into the database, and it allows you to specify font, size and style for different parts of documents. You can't, however, generate all the complex, multilayer reports that you can with a fully programmable database. And there are some other surprising limitations. C.A.T. won't, for instance, print mailing labels in draft mode on the ImageWriter.

"Seamless integration"

C.A.T. , however, delivers its features quickly and in general performs very well — primarily because it keeps all data in memory and writes nothing to disk until you tell it to. The program also offers several unusual shortcuts that can significantly cut your work time once you have learned to use them effectively. Chang Laboratories calls one such convenience "seamless integration." If you locate and select one account record and then open another window, the latter will come up with updates of data from the selected file already showing, so that the user need not search for it again.

For record searching, C.A.T. provides "clairvoyant fields." As you type into them, the program automatically enters the first record that matches what you have typed into an adjacent "echo field." If you were looking for a Contact named Fred Jones, typing the "Fr" might be enough to find the record. (This feature may owe its name to a somewhat similar one in OverVUE, an older general-purpose database from ProVUE Development of Huntington Beach, Calif.)

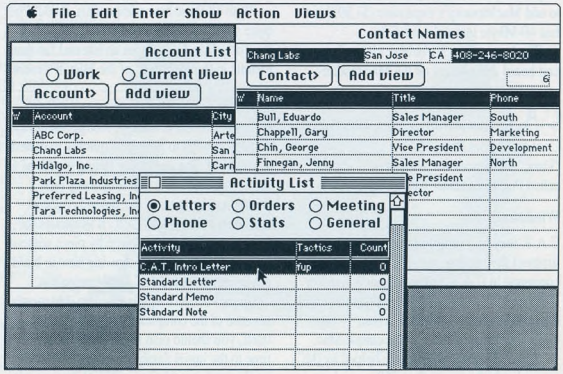
On the other side of the ledger, C.A.T. also has a series of minor problems that make it harder to use than it needs to be. Take saving your work, for instance. Since there is no simple Save key, each time you want to save your work, you have to start with the Save As command and then work your way through at least three dialog boxes. The addition of a single-step save process, perhaps along with a periodic reminder to save, or even an option to have your work saved automatically at intervals, would greatly enhance the program.

Besides the puzzling keyboard selections for the Hot Keys in note fields, other command-key assignments are not what most Mac users expect. Command-P, for instance, posts rather than prints. The result of these minor differences is that C.A.T. is sometimes frustrating and is harder to learn than it could be.

Another problem in C.A.T. is terminology. Several of its features and commands have unfamiliar and sometimes confusing names. The Add View button, for instance, sounds like something that would let you define or bring up an additional view; in fact, what it does is let you add an account to a previously defined view or even delete an account from a view. The window in which you link a contact, an activity and a time is, inexplicably, labeled

See C.A.T., Page 26

With C.A.T., you can group a series of Activities into a "Tactic," then associate the Tactic with a Contact.



Breathe new life into your old Mac

TurboMax

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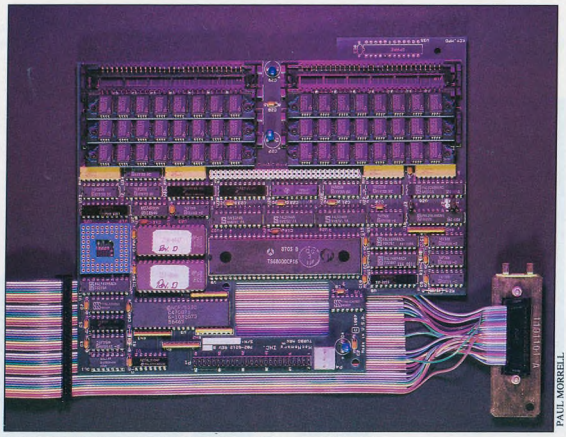
Retail price: **$1,399; $399** for optional 68881 coprocessor
Strengths: Impressive speed with full software compatibility; beefed-up components.
Weaknesses: SCSI port raises compatibility issues with some hard-disk drives.

BY ANTHONY J. DELLETT
Special to MacWEEK



PAUL MORRELL

Turbomax may be the answer if you want to continue using your older Mac.

If you have an older Mac — a 512KE, say, or even a Plus — chances are that you're wondering what to do with it.

You are probably tempted to buy one of this year's zippier models, but you may be hesitating to write off your investment in a perfectly serviceable machine. Perhaps you've heard about the new accelerator boards that bring faster processors and extra memory to the classic Macintosh, but you may also have heard stories about all the software that doesn't work properly or doesn't work at all with the newer 68020 chip used in most such add-on cards.

If that's your dilemma, you ought to consider the TurboMax, a "system upgrade" package from MacMemory Inc. of San Jose, Calif. It won't give you all the additional speed of a 68020 accelerator, but it will make your older Macintosh work faster than it ever has before and also keep it compatible with all the software that runs on the SE, Plus and 512KE models.

And by the time your technician gets to the bottom of the TurboMax box, you'll have, as MacMemory's spokesman John Foley puts it, "every major component upgraded beyond the level of the SE." You'll come away with 2 Mbytes of RAM, a chip that makes RAM disks recoverable, a beefed-up fan and power supply, a fast (though not quite standard) SCSI port and an option to add a math coprocessor chip. And you will still have room, if you wish, to add MacMemory's expensive ($1,995) but fast 40-Mbyte internal hard disk.

The heart of the TurboMax kit is a large circuit board that mounts on the Mac motherboard and bypasses the Mac's 68000 processor in favor of one that runs twice as fast — at 16 MHz compared with 7.8 MHz.

"Why use the 68000 chip instead of the more powerful 68020?" MacMemory's answer: for full compatibility. The TurboMax is the only accelerator board that can claim to run all existing Mac software except that written specifically for the Mac II. Competitors with 68020-based accelerators — vendors like Levco of San Diego and TSI Inc. of Eugene, Ore. — can assure compatibility only by allowing you to turn off the 68020 altogether. That means, of course, that you'll be running at old-Mac speeds when you're in compatibility mode. (The Plus accelerator from Radius has no compatibility mode at all.)

The additional memory on the TurboMax board is "fast RAM" — the new chips run at 120 nanoseconds compared with the 150-nanosecond rate of the RAM chips Apple used. There are 1.5 Mbytes onboard, but the TurboMax can recognize only 2- or 4-Mbyte configurations, so on a Mac Plus, 512 Kbytes of the original memory goes to waste. Unlike some 2-Mbyte upgrades, though, the TurboMax is expandable to 4 Mbytes with standard 1-Mbit single in-line memory modules (SIMMs).

With all these new components, it could get quite warm under the hood of your Mac, but the TurboMax kit includes an internal fan that mounts in the back right of the Mac. It's more effective than the small piezo-electric fans MacMemory used to sell, but it's also considerably noisier — about as loud as the SE fan.

The kit comes with a one-year warranty and full technical support from MacMemory.

Installing the TurboMax is a complicated job that involves, among other things, replacing the bracket that holds the Mac's internal floppy drive, soldering cables to connect the TurboMax's power supply and calibrating both old and new power supplies. Leave it to an authorized technician or you'll void the warranty.

Once installed, the TurboMax will be a real treat if you're used to the pace of the 512KE or the Plus. An impressive speed increase is almost immediately noticeable. To take full advantage of the TurboMax, set up a RAM disk or Control Panel RAM cache of at least 512 Kbytes. This will take over the slower Apple-installed RAM chips, leaving the TurboMax's faster RAM as main system memory.

If you've installed a 68881 coprocessor (a $399 option), you'll see an especially dramatic performance improvement in applications that do a lot of mathematical computation using SANE (Standard Apple Numeric Environment) routines. The TurboMax automatically reroutes these chores to the coprocessor, which can speed up mathematical computations, though not actual throughput, by up to 6,000 percent. The math chip won't perform quite as well, though, as it does on machines that combine it with a 68020 CPU.

Just how fast is the TurboMax? We put a Plus equipped with a TurboMax through a variety of laboratory and real-world tests, and in every case it proved dramatically faster than a stock Mac Plus but slower than a Mac II. Scrolling through a 66-Kbyte MacWrite document took 91 seconds, compared with 130 seconds on a Plus and only 52 seconds on a Mac II. Recalculating a complex Excel spreadsheet, a job that took 28 seconds on a plain Plus, took only 4.6 seconds — nearly as fast as the Mac II's 4.4 seconds.

The SCSI problem

The most problematic feature of the TurboMax is its high-speed SCSI port, which is not fully compatible with all third-party hard disks. The TurboMax documentation includes a list of supported SCSI drives, including Apple's HD20SC and 14 others, among them products from General Computer, Jasmine, Personal Computer Peripherals Corp., Rodime and SuperMac Technology. Most of these drives have to be reformatted with special software, and while some work faster with the TurboMax, others may suffer some degree of performance degradation, a MacMemory spokesman acknowledged.

If you already have a hard drive, you should check carefully to ensure that it will perform acceptably with the TurboMax before you buy the MacMemory board. If you don't already have a SCSI drive, you may find your options somewhat limited. And in any case, be aware that new problems could arise in the future as hard-drive vendors enhance their software.

Should you buy a TurboMax? Its impressive speed and full compatibility are certainly attractive. But the software-compatibility issue is fading as more and more software developers modify their programs to work with the 68020 chip. The TurboMax's 68000 processor, even at its fast clock speed, can't match the newer 68020. And the SCSI-compatibility issue means that you ought to be certain TurboMax will work properly with hardware you have or may want to use.

TurboMax makes the most sense for those who have enhanced 512K models. With the addition of a SCSI port, more memory and a fast processor, they'll leapfrog right over the Plus and the SE in performance. ■

Anthony J. Dellett is a software specialist at Peripheral Land of Fremont, Calif.

C.A.T.

Continued from Page 25

"Data," and among the buttons on it are one called Pop and another named Push.

Windows galore

C.A.T. may be a program that has reached the limits of the window metaphor. Nearly every command in C.A.T. brings up a new window. If not carefully managed, the profusion of windows will quickly clutter the screen — especially the 9-inch display of the classic Mac.

Some of these problems are helped by the manual, which is more than 250 pages long and fairly easy to read. It contains a tutorial and an index that is usually, though not always, detailed enough to point you quickly to material you need. The one major failing we found in the documentation is that it includes only a skimpy explanation of the general concepts that form the basis of C.A.T. It illustrates the features of the program piece by piece without any sustained examples showing how to build a fully developed C.A.T. implementation.

In part because of this problem, but mostly because of the complexity of the program itself, you should plan to devote some extra time to the initial database design. You could easily need several tries with real data samples before you have the right structure.

If the manual does prove inadequate for any of your questions, C.A.T. includes free technical telephone support for the first 90 days. You can buy additional support for $150 per year. We found the support people helpful, knowledgeable and readily available.

The biggest problem facing C.A.T. may be HyperCard. The stacks included with Apple's new program may provide all the contact management functions that many people need, and additional stackware could provide even more of C.A.T.'s capabilities. While obviously not as well adapted to this task as C.A.T., HyperCard appears attractive because of price, especially in contrast to C.A.T.'s $399.95 price tag. One advantage of C.A.T. over HyperCard, however, is that it can run in 512 Kbytes of memory and on a floppy-based system.

If you need only a modest scheduling tool and phone book package, C.A.T. is overkill, and you could get by perfectly well with current Desk Accessories or applications. But if you spend a lot of time managing relationships with clients, C.A.T. could be a good choice. ■

Bill Catchings is a free-lance writer and software engineer at Data General Corp. Mark L. Van Name is a free-lance writer and consultant.

A good effort at living up to an ambitious title

The Complete HyperCard Handbook
By Danny Goodman
Bantam Books, 720 pages, $29.95

BY STEVE MICHEL
Special to MacWEEK

If you had to pick one word to describe the introduction of HyperCard, you might well choose "confusing." It calls to mind the breath mint commercials on television: "It's a database." "No, it's a programming language." "No, it's a painting program." "You're all right," the voice-over says. "HyperCard is three programs in one."

Danny Goodman's book, "The Complete HyperCard Handbook," orbits this mass of Hyper confusion. With its exhaustive-sounding title, it takes on the task of explaining all things HyperCard to all people. That's a tall order for any book to fulfill, especially one that was obviously created in a white heat to get it released concurrently with the program it describes. So the question is: How well does the book live up to its title?

All in all, as it turns out, pretty well. Let's look at its separate pieces.

John Sculley, Apple's chairman, president and CEO, contributed the forward. He has been writing and written about a lot lately — which perhaps explains why this piece is so thin. It's mostly a contribution to the already ample hype surrounding HyperCard.

An interview with Bill Atkinson, HyperCard's author, also precedes the heart of the book. He gives a brief history of the product and how, at his insistence, it came to be bundled with every Macintosh. Probably the most intriguing piece of information in the interview comes in his parting comments. Goodman asks if we "can expect to see additions" to HyperCard. "Lots of improvements," answers Atkinson. "This is not going to be abandoned … My full-time schedule for the next couple of years is improving HyperCard." Good news for avid card sharks.

Goodman's introduction, titled "Coping with the Information Revolution," attempts to put HyperCard into historical perspective, linking it with Sumerian clay tablets, the first writing and recording methods. From these modest beginnings, information technologies progress through the printed page to telegraph, telephone and the computer. HyperCard, he said, is a step in the development of a universal standard for information linkage.

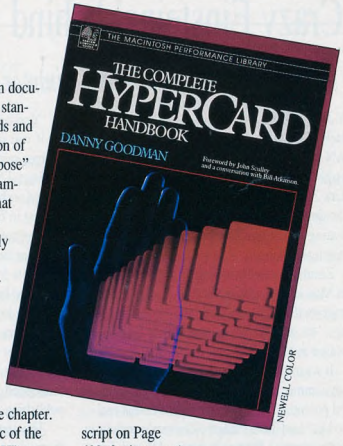
Pretty big claims. For better or worse, HyperCard does that to people.

Now for the meat of the book — 44 chapters divided into four sections. The first two sections — "Browsing through HyperCard" and "HyperCard's Authoring Environment" — are little more than a recap of the Apple manual. Goodman does explore some subjects not really detailed there; he provides, for example, a step-by-step guide to creating a new To Do stack. All of this, however, will add little to the Hyperknowledge of those who have already explored the program. These sections will probably be used most by those who are having trouble understanding HyperCard concepts — and by the large percentage of current Mac owners who are likely to rely on bootleg copies of the software.

The matter in the book that will be of greatest immediate and long-term value to most, though, is contained in parts three and four, chapters 18 through 44, which focus on HyperTalk, the HyperCard programming language. For most users, these chapters will be the prime reason for purchasing the book and the prime reason it remains open on their desks instead of closed on their shelves.

(It is curious that for the product that is called the "programming language for the rest of us," Apple has not yet provided any detailed language documentation. A HyperTalk manual has just been released by the Apple Programmer's and Developer's Association. But the standard package sold by Apple dealers has virtually no discussion of HyperTalk. The excellent Help files that come with the program are much more useful, but they lack examples for many commands and functions. And some things just seem to be left out.)

> "Goodman tried to write a book that lived up to its ambitious title, and if he wasn't quite successful, that's probably because the title was too ambitious."



Goodman does two nice things in documenting HyperTalk. First, he uses a standard format for describing commands and functions. Each includes a description of the command — he calls it "the purpose" — notes on when to use it, some examples and the "you try it" examples that can usually be typed into the HyperCard message box to see immediately what the commands do. This is an excellent way of describing this programming language.

The other special feature is that commands are grouped by use or function. For example, all the commands for manipulating text files — such as Open File, Read File and Close File — are gathered in one chapter. This makes it easy to follow the logic of the commands without the "See chapter X" constructions that an alphabetical structure would have necessitated. Over recent weeks, this user has referred to these command descriptions time and again, and I suspect that most others will be doing the same.

Of course, there are some rough spots in the book. Most of these are probably because of the time constraints that must have been present for author and publisher to have the book ready upon HyperCard's introduction. Indeed, it seems that in many parts of the country, this book is or will be available before HyperCard is — book distribution channels are apparently far more responsive than their software equivalents. The writing and editing are sometimes a little hasty and sloppy. There are even some sample scripts that do not work properly because of minor omissions. (See whether you can fix the potentially useful Make Button script on Page 603, for instance.)

As readers become experienced with HyperTalk, it will be easy for them to figure out such errors. They definitely do not outweigh the mass of useful information in the book. But we hope the author and publisher will take the time to clean up the text before sending it back to the printers for another run.

All in all, this is a fine book and a bargain compared with equally expensive computer books with far less substance. Some parts of it, not surprisingly, are better than others. Goodman tried to write a book that lived up to its ambitious title, and if he wasn't quite successful, that's probably because the title was too ambitious. In the long term, a more useful book would have focused more detail on the programming language and less on learning the basics, but such books will come. ■

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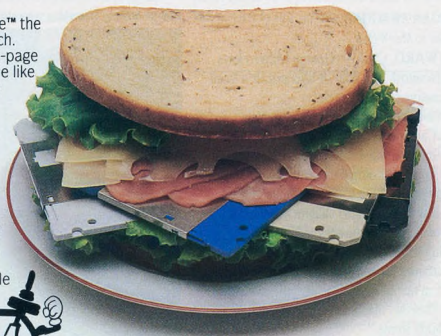

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'Crazy Einsteins' behind Image Studio

Virtuoso programmers Mark Zimmer and Tom Hedges

MARK ALCAREZ

Mark Zimmer and Tom Hedges, partners in Fractal Software, developed Image Studio, a gray-scale program.

BY JIRI WEISS
MacWEEK Staff

SAN JOSE, Calif. — The birth of Letraset's Image Studio owes much to serendipity, said Mark Zimmer, one of the two programmers who developed the new software package for creating and retouching gray-scale images and printing halftones.

Zimmer started working on the program on his Mac 128K in 1984. "I wanted to design a program that my wife could use to design rugs," he said, reclining in a chair in his office, located in his modest San Jose, Calif., home.

It wasn't until desktop publishing boomed that Zimmer realized the program's commercial potential. "It was really Letraset that realized it," said Tom Hedges, Zimmer's partner in their company, Fractal Software. He and Zimmer got a contract from Letraset in late 1986.

Zimmer and Hedges are driven more by their excitement about a problem than by thoughts about where it will lead, said Russell Brown, art director for Adobe Systems Inc. of Palo Alto, Calif., and perhaps the first person to publish a picture produced by Gray Paint, Image Studio's name before it was purchased by Letraset of Paramus, N.J. "They are a couple of crazy Einsteins," he said.

The concept of a gray-scale program was not new. Zimmer had worked on an 8-bit-per-pixel, gray-scale program for a CAD company, but bringing it down to a machine the size of a Mac certainly was new.

Zimmer, 31, and Hedges, 37, spent a great deal of time working out ways to simulate shades of gray on the Mac screen by dithering, using a combination of black and white dots on the screen.

"You couldn't see the gray scale directly, but if you stood at a distance, you could," Hedges said.

Fractal Software, the company Zimmer started with Hedges in 1985, grew out of their interest in fractals, the mathematical equations that can simulate very complex and seemingly irregular landscapes on a computer screen. The two grew fractal trees with fractal bark and produced landscapes. Their interest in music led them to produce the first Macintosh music synthesizer, called SoundCap.

Neither project was a commercial success. Gray Paint, too, almost faded after being mentioned just once in a 1986 ad by software-publishing company MacNifty.

The partners like being in business for themselves. Zimmer insists that lone, virtuoso programmers are better at supplying innovative software than the teams that work at large companies like Microsoft Corp. or Apple. However, he said he believes programmers should leave it up to software publishers like Letraset to market the programs.

"Large companies pride themselves in being market driven; they don't do anything new. They wait for the market to say, 'We need this,' and fulfill that demand," said Hedges.

Dressed in a T-shirt, jeans and sneakers, his long hair tied in a pony tail, Zimmer does not hide his distaste for the three-piece-suit culture of Silicon Valley in the '80s. Hedges, who also sports a pony tail and wears Birkenstock leather sandals, agrees.

Zimmer remembers Silicon Valley in the '70s, when he and Hedges worked at Calma, a company he said developed the first CAD system for integrated circuit design. Calma was a zany place, he said. The programmers in the research and development section worked on their Haseltine terminals sitting in bean bag chairs, and practical jokes were the order of the day.

Once the whole research and development section surprised management by turning the company upside down in search of clues in a treasure hunt. "We had executives rolling up their sleeves," Zimmer said.

"Nowadays it just isn't the same" he said, sighing. "The whole of Silicon Valley has lost some of its entrepreneurial spirit."

Zimmer left Calma in 1981 for a CAD software startup called Tricad. "In the '70s it was typical to get involved in a startup," Zimmer said. Five years later, Zimmer left the startup after Tricad was taken over by Auto-Trol Technology Corp. Hedges quit Calma, where he and Zimmer had became friends, and the two went to work for themselves full time.

With his systems programming background, a bachelor's degree from the California Institute of Technology in Pasadena (Caltech) and a master's in electronic engineering from Stanford University in Palo Alto, Calif., Hedges is generally the "hardware man" who takes a project to completion. Like Zimmer, he works at his home, located in Aptos, Calif., about an hour's drive from San Jose.

Zimmer does not have the same formal educational background, but his interest in computers dates back to his freshman year of high school in San Jose. "Computers seemed the perfect thing to do," he said. "Computers were like the unthinking beasts ... like those trolls in Norse mythology that did things that were impossible. I clued into that."

Zimmer said he remembers when his Caltech and University of California, Berkeley, classmates used to say that smart people go into physics, not computer programming. "It's interesting to see people who were high and mighty 10 years ago doing the same thing now. It's funny seeing them catch up," he said. ■

Mac liberates creative spirit

BY JOAN ARAGONE
Special to MacWEEK

HAYWARD, Calif. — George Miller views his Macintosh as a kind of liberator. It's freed his creative spirit, he said.

In a campus work space he's dubbed "MacCave," where his Mac Plus with a 20-Mbyte hard disk sits surrounded by artifacts from archeological digs, the anthropology professor at California State University, Hayward, designs chapter headings for a new book, devises posters and jazzes up class reading lists and handouts with fancy graphics and artwork he designs himself.

"I'm not an artist," the 43-year-old Miller said, "but this machine has liberated the artistic ability in me."

A self-described technophobe who worries about the "dark side" of computers, Miller is as surprised as anyone about his compatibility with the Macintosh. He sounds like a poet caught in the linear world of research and experimentation.

"I've always been worried about reliance on technology like this," he said, "and that dark side still exists. But this machine allows greater possibilities than simple number crunching and erasable typing. It can show a humane expression of the new computer technology that wouldn't be possible with my own meager talents."

Miller's previous computer experience was with a UNIX system at the University of California, Berkeley, where he earned a doctorate. In 1984, he started shopping for a word processor to simplify writing articles.

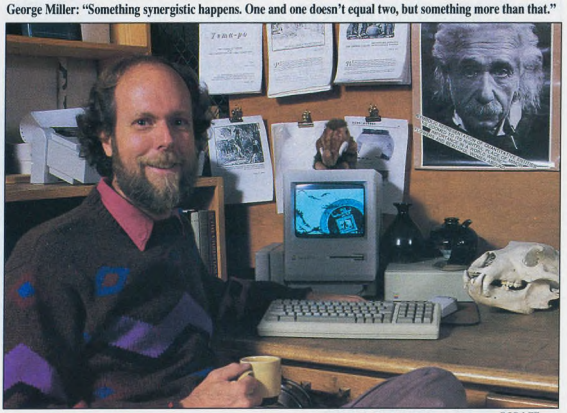
"Basically, I just got tired of Whiteout," Miller said.

He had never heard of the Macintosh until he saw a billboard offering a 24-hour home trial. He took a Mac 512K home and decided to keep it. He bought the Mac Plus last December for campus use so that he wouldn't have to lug the 512K back and forth from home. With the aid of students, he's writing a book on excavations he directed in Alameda County, located on the San Francisco Bay.

Called "Yemo-po: The Overseas Chinese and the Construction of Lake Chabot Dam," the book documents the role of the Chinese in building the California dam in the late 1800s. Instead of what Miller calls the usual "dry, boring academic tome," "Yemo-po" will be illustrated with graphics produced with ThunderScan, MacVision, MacPaint and other Mac software.

"This machine allows the best of the artistic process," Miller said. "It sort of lets your mind go and call up different things. Something synergistic happens. One and one doesn't equal two, but something more than that." ■

George Miller: "Something synergistic happens. One and one doesn't equal two, but something more than that."



ROB LEE

KIOSK

Continued from Page 1

a special national accounts team.

The source also said HyperStation is planned for use by retail stores, universities and government agencies for kiosk-type marketing and training.

Demonstration attendees said the current version of HyperStation has a Motorola 68000 CPU, 1 Mbyte of memory, 512 Kbytes of ROM and a 512-by-342-pixel black-and-white screen like the SE.

The current unit also features HyperCard, printer drivers and AppleTalk drivers in ROM; a Sony CD-ROM drive instead of 3.5-inch disk drive; a built-in videodisc controller port; a chiclet keyboard; and a trackball instead of a mouse, the sources said.

A telecommunications consultant for the U.S. government said Apple sales representatives told him during a demonstration that the CD-ROM drive can be locked. Plans to lock the keyboard and the trackball were discussed.

A computer applications specialist for an Ivy League college, who spoke on the condition that his name not be used, said the school planned to use HyperStation.

However, employees at Buick Motor Division in Flint, Mich., the user most frequently mentioned by sources, said they weren't aware of future HyperStation use.

Nancy Newell, Buick's director of electronic product information, said Buick has used EPIC, an IBM AT-configured network linking its 411 dealers nationwide to access product information since 1984. She called reports of Buick using a HyperStation kiosk at each of its dealerships by mid-1988 "interesting."

Buick uses Apple IIs and Macs at some dealerships. The automaker also used Sausalito, Calif.-based The SoftAd Group Inc.'s Buick Dimension software, which provides information on the automaker's models, in a promotional campaign.

Peter Teige, PC analyst at Dataquest Inc. of San Jose, Calif., said car dealerships would be ideal users of HyperStation. ■

PARIS

Continued from Page 1

Card, MultiFinder ... there just wasn't the same kind of excitement," said Eli Abitol, president of MicroComputer Services of Nice, France.

A few U.S. companies attended, clustered in the booths of their European distributors.

"What is interesting about this show is that there are a lot of distributors, and a lot of the people here want to be able talk to manufacturers," said John Foley, executive vice president of MacMemory of San Jose, Calif.

Version 3.5 of 4e Dimension, which will ship in December, will offer 20 percent faster sorting and printing, according to Maryelene Delbourg-Delphis, president of ACI, the French parent of ACIUS Inc. of Cupertino, Calif. Upgrades will be free to users who have already purchased the program. 4th Dimension has been criticized in the United States for its slow performance. A new U.S. version with similar enhancements will be announced in January at the Mac Expo in San Francisco, Delbourg-Delphis said.

"There are no major differences between the French and U.S. versions of the program," said Guy Kawasaki, president of ACIUS. 4th Dimension has been shipping in France since the end of 1985.

ACI also introduced several French-only products: Comptal-Simil, a 4th Dimension-compatible general ledger program, and Self Serve, a communications program that permits remote access to a Mac via France's teletext MiniTel network.

A controversy developed over ACI's word processor, WriterPlus. Roger Rainero, the author of the program, independently announced that a less powerful version of WriterPlus, called Columbine, would be sold by a new company, Future Simple.

Delbourg-Delphis of ACI, which owns the rights to WriterPlus, said: "There are legal issues involved, but we settled it nicely. Columbine is an adaptation of WriterPlus for small businesses in France. It's an invoicing program with some of the features of WriterPlus but not as powerful."

According to MicroComputer Services' Abitol, Columbine is targeted at small craftsmen and businesses. "A picturebase of drawings can be stored within the program. A plumber could print a picture of a part he replaced right on an invoice," he said. Columbine is listed at 2,500 francs (about $412), the same price as WriterPlus.

SuperMac Technology of Mountain View, Calif., announced that its PixelPaint software will ship in November and that its French version has been renamed SuperMac Paint. SuperMac's French distributor showed new features, including color cycling, and said the software will be bundled with SuperMac's 19-inch color Spectrum card and monitor. The company's 24-bit color frame buffer was not shown.

Abvent of Beverly Hills, Calif., introduced Zoom, a 3-D solid modeling and animation program for the Mac, which will compete head on with Dimensions from Visual Information of La Puente, Calif. It will ship in the United States at the beginning of the second quarter next year, according to Christopher La Val, company president. Zoom will allow users to upload and download files created on Bosch FGS4000 and FGS4500 3D videographics and animation systems. Animation and graphics created by Paris Television Station TF-1 with Abvent's Space Edit 2.0 and an alpha version of Zoom were shown in the company's booth.

A version of Zoom written under the Mac operating system will be priced between $1,000 and $2,000, and an A/UX version will be priced "significantly higher," La Val said.

Orches of Marseille, France, announced a video digitizer card for the Mac II that supports 256 gray-scale levels. The NuBus card comes with software that allows the user to digitize video images and import them as PICT 2 files. The software also allows the user to zoom in and out of parts of an image. The card and software will ship in France in January. ■

RADIUS

Continued from Page 1

"Larger screens require faster refresh rates," said Alain Rossmann, vice president of marketing. "Anything less than 70 Hz gives you a headache. You have to bundle aspirin with the screen."

The monitor's 82-dpi resolution is close enough to the Mac's 72-dpi resolution to preserve the visual clarity and crisp images seen on the Mac screen, he said.

The $2,395 price includes the monitor, card and cable. The TPD will ship later this month, according to Rossmann.

The company sells two other monitors for the Macintosh Plus, SE and II, as well as an accelerator board for the Mac SE and Plus.

The TPD includes software with innovative features, including tear-off menus available in any application. The user can pull down a menu and drag it to any position on either the TPD or SE screens. Any number of menus can be positioned and left open.

Many CAD/CAM professionals use the tear-off menu to open their favorite tools and position them on the SE screen, leaving the TPD free of clutter, according to Rossmann.

"The tear-off menus are great because you can arrange your tools the way you work best," said Arlene Karsh, director of publishing systems marketing analysis for CAP International Inc. of Marshfield, Mass.

"Our market is the professional publisher and graphic designer," Rossmann said. "CAD/CAM users will follow with the increasing availability of CAD/CAM software."

Other TPD features include larger menus than Apple's standard menus, Zoom Boxes in every menu box and an alignment tool.

The alignment tool, which appears in the Control Panel, allows users to align images on the two screens so that objects divided between the screens will appear at the same level.

Also in the Control Panel are options that allow users to turn the other TPD features off or on. ■

LOTUS

Continued from Page 1

according to David P. Tarrant, general manager of Lotus' graphics products group.

"It is an oversimplification to say we're porting 1-2-3 over to the Macintosh," Tarrant said. "We have to balance significant differences between the two environments. We would not go to the Mac without taking advantage of the kinds of things people want in a Mac environment."

Lotus also said its next offering for the Mac market, Modern Jazz, a six-function integrated software package, will be introduced in January at the Mac Expo in San Francisco. Modern Jazz was previewed at AppleWorld in Los Angeles last March under the code name Galaxy. Lotus was unable to obtain a trademark using the name "Galaxy," said Tarrant.

More is known about Modern Jazz than 1-2-3 for the Mac. According to the March announcement, Modern Jazz will include a command language and dynamically linked modules in the same program. The command language lets the user customize the program and execute a series of commands with a single keystroke. The product combines a worksheet, graphics, word processing, database, forms and communications.

Modern Jazz will include 3270 emulation support for sharing information with a mainframe. According to Lotus, the program will seamlessly read Symphony and 1-2-3 files.

Analysts suggested that Lotus' announcement, in particular, lends more credibility to the Macintosh in traditional PC markets. Lotus may not leapfrog Microsoft Excel in functionality on the Mac, but it could make inroads into the Excel-dominated Mac-spreadsheet market by leveraging its large installed base of PCs.

"Whether or not 1-2-3 sells a lot of Macs, it opens up people's thinking," said Richard Edwards, a limited partner of Robertson, Colman & Stephens in San Francisco.

Michele Preston, an analyst with Salomon Brothers in New York, called 1-2-3 a "checkpoint on a criteria list" for micro purchases. But, she said, Excel, which will be upgraded next year, is "a superior product and we don't know what Lotus' rendition will look like." ■

EXCEL

Continued from Page 1

log box that will speed up sorting and data searches.

At the Microsoft press conference Oct. 6, Chairman Bill Gates said: "During 1988, we will have two new upgrades for Mac Excel. The first, Version 1.5, will offer major enhancements, including custom menus and dialogs, color support, multitasking support under MultiFinder and enhancements to the charting program. Before the end of 1988, we will have a version that offers everything the PC version has."

At $395, Version 1.5 for the Mac also will include:

• "Tunneling dialogs," buttons in dialog boxes that will transfer the user to other dialog boxes, bypassing the need to make multiple mouse moves to the menu bar;

• A Desk Accessory with a MacDraw-like environment that will allow users to create boxes, buttons, list windows and scroll bars. Excel will automatically translate the dialog box into macro code;

• And major modifications to the charting module.

Lotus and Microsoft analysts seemed intrigued last week by the notion of hand-to-hand combat among accountants over the two new spreadsheets — on the PC side. It was impossible to compare the functionality of Excel with the undeveloped 1-2-3 for the Mac. ■

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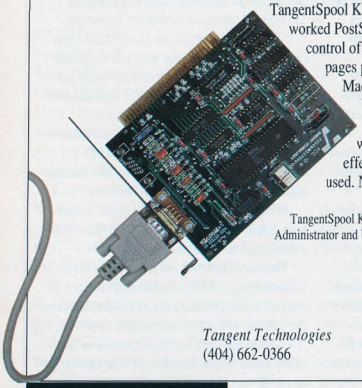

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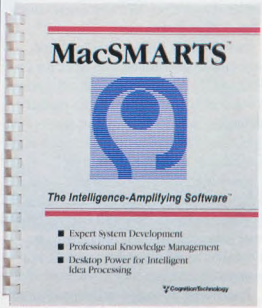

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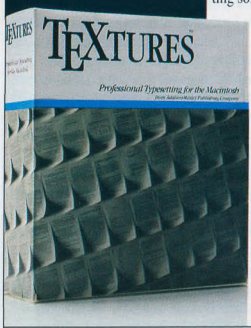

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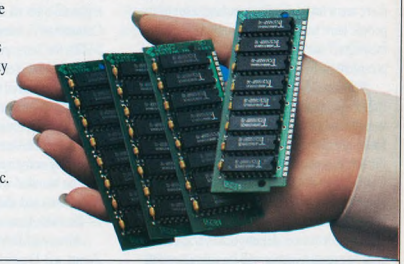

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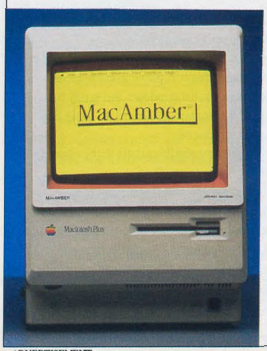

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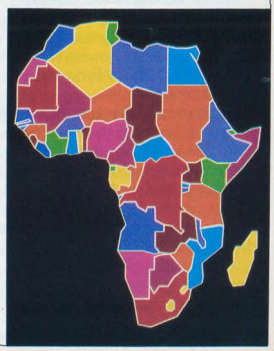

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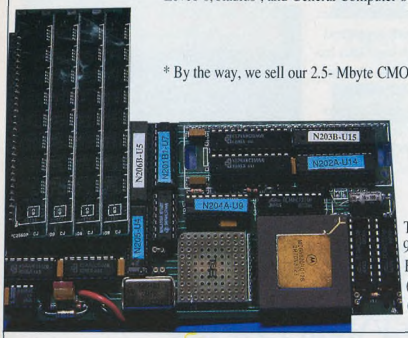

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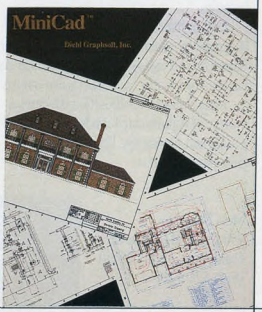

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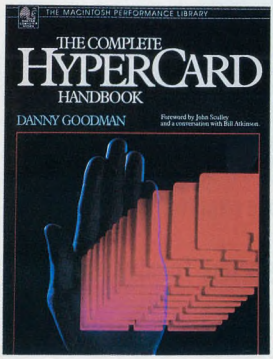

In "The Complete HyperCard Handbook," insider Danny Goodman reveals shortcuts and undocumented features for HyperCard browsing, graphics and authoring, as well as HyperCard's comprehensive programming level and the HyperTalk language, plus step-by-step explanations of several full-featured HyperTalk intensive applications.

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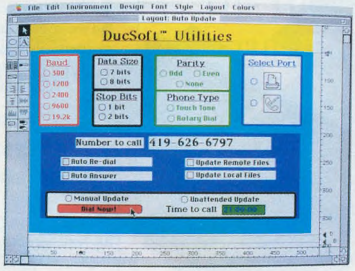

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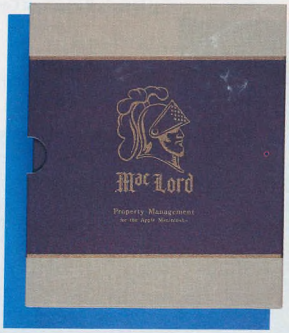

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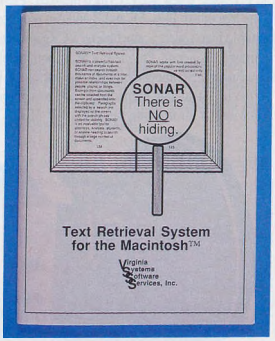

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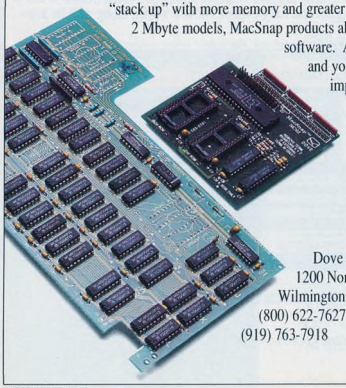

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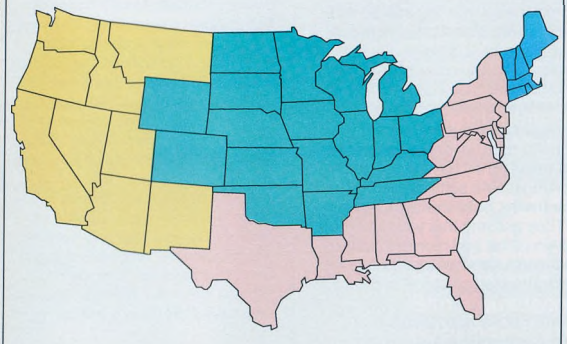

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MAC THE KNIFE

Spreadsheet wars are at the top of the news, but E-mail skirmishing isn't far behind. Less than a week after the announcement of the Symantec-Think merger comes confirmation that Microsoft has inked its acquisition of InterNet, publisher of Intermail, Think's only competitor in the Macintosh E-mail market.

Microsoft will be the third owner of Intermail in the past three years. Nick Holt, who wrote the program, has followed the software from its original British owner to InterNet. But a call to that company last week revealed that Holt was no longer working there. A spokesman wouldn't say when or why Holt had left.

It's an open secret that Microsoft had earlier courted and been spurned by Think. According to Andrew Singer, now the general manager of Symantec's Think Technologies division: "We were worlds apart philosophically. Microsoft thinks applications are all engineering and I believe programming is art."

Now that the battle lines are drawn, Singer is chomping at the bit. "I love the idea of competing against them. InterMail is a known entity for us. Microsoft won't make me shiver in my boots," he said.

Back to spreadsheets: While Microsoft goes on the offensive with PC Excel and Lotus goes on the defensive with 1-2-3 for the Macintosh, Ashton-Tate may have the first dark horse with a better chance than Albert Gore: Glass. The nondisclosure agreement is so draconian that even the Knife's ample charms have failed to elicit many specifics, but just the mention of the name Glass brings a gleam to beta testers' eyes. Then they stumble all over themselves trying to describe how wonderful it is without divulging details.

The 1-2-3 announcement raised more than a few industry eyebrows. In this age of vapor awareness, why announce that you'll be making an announcement sometime next year? Well, maybe if you're trying to steal thunder from the next-day unveiling of PC Excel.

Word is that 1-2-3 Mac will look about as much like Version 2.0 of 1-2-3 as the upcoming OS/2-compatible Version 3.0, which is to say not much. The twist in all this is that one of the very first machines to support OS/2 will be the AST Mac286-equipped Mac II, which could be ready much sooner than most expect.

Perhaps that's what all the excitement's about in Philadelphia. This weekend, Bill Gates is going to address the Philadelphia Area Computer Society. Nothing new there. Billion-dollar Bill has been appearing on podiums everywhere in recent months. But the Knife has learned that Microsoft has reserved 50 hotel rooms for the West Coast contingent, and PACS has been asked to help arrange catering for 1,000 folks, about three times the number that usually attend meetings.

Were we talking about vaporware? Ashton-Tate has a problem with dBASE Mac templates. The package plainly states: "... included with dBASE Mac is an Applications Template disk with fully functional mailing label, form letter, client billing and inventory management applications to get you started immediately." The only problem is that they're not included. "Those templates are provided as a bonus to customers, and they will be ready in November," A-T's PR rep huffed.

Late dBASE templates are in good company. MultiFinder's ship date has now slipped to Oct. 19. Last word is Apple programmers had MultiFinder jumping through hoops to make it work with Microsoft products, particularly Excel and Word.

WordPerfect may be better behaved — if it ever ships. Seems the powers on high are serious about getting it out by the end of November. The development team has had a lot of fun until now, but now the law's laid down: Finish on time or all of you are history, and that includes the secretarial staff.

Imitation is the sincerest form of flattery, or Good grief! Is this the Mac Jr.? department: Knife spies are excited about Apple's HyperStation system, but all of them are flabbergasted by the chiclet keyboard. One consultant said she can't recommend HyperStation for a training application without a full-travel keyboard. If the standard Apple keyboard is too fragile to stand up to people banging on it hard, perhaps it's time to upgrade the standard keyboard.

Finally, the Knife has learned why HyperCard is in such short supply. The entire production line has been temporarily shut down while the Quotations sample stack undergoes some serious debugging. In the new version, when you click on the "Who says?" button, the correct answer, Joe Biden, is returned.

***

Every Joe can win a mug, but it takes an *original* tip. Call me at (415) 882-7370 or MCI (MactheKnife). ■

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Sans name or new products, Apple's software spinoff searches for its identity
BY JIM BEAVER
MacWEEK Staff
CUPERTINO, Calif. — Ankle deep in lawyers, new names and the search for a building, William Campbell took some time last week to discuss his newest challenge with Apple Computer Inc.—spinning off an independent software company from its famous parent.
No name for the new company has been approved yet, although certainly not for lack of trying.
As many as 15 names have been run past the lawyers, but each was turned down because it was someone else's property.
Campbell, who will be president and chief operating officer of the new firm, says he hopes to have a name and logo set for the season.
Will Apple take a risk on RISC? As with the "Open Mac," Apple watchers may find the answer on vanity license plates.
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advanced development team is now at work using its Cray XMP-
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Jean-Louis Gassee, head of the Macintosh II design team and Ap
research and development, says Apple has a RISC project but refuses
product based on the technology is in the works.
"It's a very popular topic at Apple these days, but whether or not
Gassee says. "We've been working on RISC a long time, but we need
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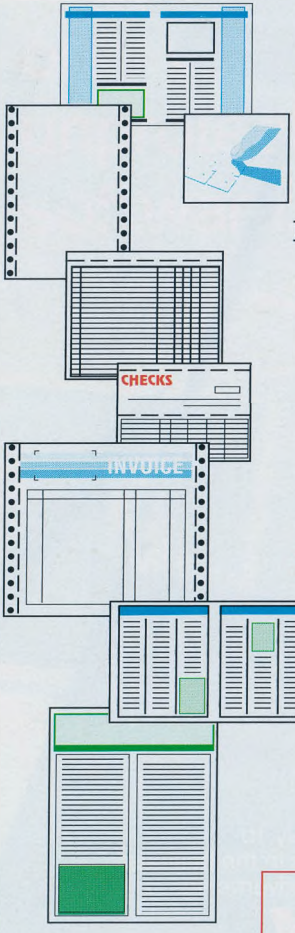

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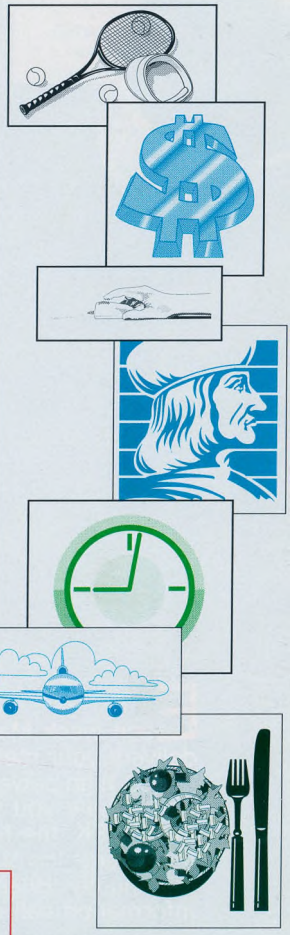

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